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FOR THE

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TRANSACTIONS
OF THE
ETHNOLOGICAL SOCIETY OF LONDON.

I.—*On the History and Migration of Textile and Tinctorial Plants in reference to Ethnology.* By J. CRAWFURD, Esq., F.R.S.

[Read January 7th, 1868.]

IN cold and temperate regions, the earliest clothing of man would necessarily consist of the furs of wild beasts; but in warm and hot ones partially of these, but chiefly of vegetable substances, such as leaves and barks. Many of the savage tribes of America, of Australia, and of New Guinea, have not yet gone beyond this first stage. As in cold and temperate climates, the first step preceding the invention of textile fabrics consisted in the conversion of hair and wool into felt: in tropical ones, it would consist in a kind of paper or papyrus, such as that manufactured by the South Sea Islanders from the paper mulberry, or *Broussonetia papyrifera*, and with which the more advanced of them were all clothed when they were first seen by Europeans, and many still are so. The same plant is still cultivated in Japan and China for the manufacture of paper, and probably formed the clothing both of the Chinese and Japanese before the invention of textile fabrics. It may, indeed, fairly be conjectured that the papyrus of Egypt may have formed the summer clothing of the Egyptians before they invented the art of cultivating, dressing, spinning, and weaving flax. It corresponded with the felt of temperate regions.

The earliest vegetable textile material employed by the people of temperate climates would probably, in the absence of more obvious cotton, consist of flax or hemp; and the mummy shrouds of Egyptian tombs, which are invariably of linen, show that the cultivation, spinning, and weaving of the fibres of flax were known to the Egyptians at least 5,000 years ago. The culture of flax, with the manufacture of linen from it, was well known to the Jews: indeed, after

their long residence in Egypt, they could hardly have been ignorant of it, and accordingly mention is made of the plant at a time computed to be 1,450 years before the birth of Christ. The plant and fabrics made from it were also early known to the Persians, until superseded by cheaper cotton. Flax is still cultivated in Persia to a small extent, for the manufacture of a kind of cambric, known under the name of *ketan*. It has been long cultivated in Northern India, but for its seed only, which, in the warmer climates of that country, abounds in oil.

In Sanskrit, the name for flax is *alasi*, of which the *alsi* of the Hindi is but a corruption. The plant is unknown in Southern India, and indeed, I believe, in every tropical country. It is also unknown throughout China and Japan, as far as our knowledge extends, and in these countries a species of nettle, the *Urtica nivea* of botanists, takes its place.

The Greek name for flax, *linon*, is, as far as we know, a native word, and this would imply that the plant was indigenous in Greece, and its culture a native art. The Greeks may, indeed, have borrowed the plant, with the art of cultivating it, and of weaving a web from its fibres, from the Egyptians or the Phœnicians; but of this there is no evidence. Although its result was an article of superior value, it demanded more skill and labour than the corresponding tropical article of cotton. To judge by the name of the plant, which is essentially the same in Latin as in Greek, it was the Greeks who introduced the culture of flax into Italy. The *linum* of the Latin appears, of course, in all the languages derived from that tongue, as for example in the *lino* of the Italian, Spanish and Portuguese, and in the *lin* of the French. But it is not confined to these, for we find it in the Welsh and Armorican in the form of *llin*, and in the Gaelic of Scotland and Ireland in that of *lion*. The Teutonic languages have a native name for the plant, as in the German *flachs*, the Dutch *flas*, and our own *flax*, but in all these tongues the name for the manufacture is taken from the Latin. Thus we had ourselves at one time the word *liné*, from the French *lin*, for the plant, from whence *linen*, and even *lint*, from the French *linge*. The Dutch and German *lein* has the same Latin origin. In so far, then, as language can be considered evidence, the plant and manufacture were introduced from Greece into Italy, and from Italy they were spread to Gaul, and from Gaul to Germany and Britain. Among the Germanic nations the same origin must be ascribed to the manufacture, although the plant itself may have been a native of Germany, and probably used by the rude inhabitants of that country for cordage, or at least for the manufacture of fishing and hunting nets.

Hemp, the *Cannabis sativa* of botanists, was well known to the ancients, by whom it was probably used for cordage, but not for the manufacture of any textile fabric. Its name, *Cannabis*, is the same in Greek as in Latin, from which we may conclude that the cultivation of the plant was introduced by the Greeks into Italy. In the languages derived from the Latin, we have the same word variously corrupted. Thus, in Italian we have it as *canapa*, in Spanish as *cañamo*, and in French as *chanvre*. The name has even reached tongues that are fundamentally different from Latin. So in the Gaelic or Irish, the name is *cainb*. The names given to the plant in the Teutonic languages have the same origin as the Anglo-Saxon *hanap*, the Swedish *hampa*, the Danish *hamp*, and the German *hanf*. These seem all corruptions of the Greek name; and, if this be the case, we go to Greece for the first introduction of hemp among the people of western Europe.

Hemp is cultivated in Persia to a small extent for the manufacture of cordage, but not of cloth, and chiefly for the intoxicating property of its leaves and flowers under the name bang. In India, the plant is found wild in the Himalaya mountains, but is also cultivated to be used as in Persia. I shall have occasion to treat of it for this use under the head of Narcotics in a future paper.

Cotton is the *Gossypium* of botanists. The word *Gossypium* is taken from the Greek name of a plant, said to have been cultivated in Upper Egypt, and supposed to be a species of cotton. It gives name to a genus of plants in the terminology of botanists, of which the number of species has been variously reckoned at from eight up to twenty, while the varieties of these are innumerable. The greater number of sorts are annual shrubs, cultivable from the Equator up to the thirty-sixth degree of latitude. Cotton is probably a native of most parts of tropical Asia, Africa, and even of America, but is unknown, whether wild or cultivated, in all the islands of the Pacific, in New Guinea, and in Australia, regions of the earth peculiarly deficient in the materials of vegetable food and clothing.

But the question of chief interest in the present Paper is the history of the cultivation of cotton, and its migration through man's agency. The Greeks who visited India subsequent to Alexander's incursion saw the cotton-plant growing, and the Hindus clothed in its wool, and the Greek merchants who traded with India through Egypt after the Roman conquest of that country describe cotton cloth among the imports and exports of the Indian emporia on the coast of Malabar. Thus, the *Periplus* of the Erythrean Sea expressly names "cottons

of all sorts," as being amongst the goods dealt in at Barugaza, one of these emporia. With all this it does not appear that the Greeks who visited India by land or sea, ever conveyed the cotton plant to the western countries of Asia, in all of which it is now a staple of agriculture. The cotton seed is not perishable, and might easily have been transported, and we must therefore conclude that the Greeks compared to the modern nations of Europe were an unenterprising and incurious people, and the conquering Romans no better.

In Sanskrit cotton is called *karpasa*, a name which we must presume to have been imposed by the people who spoke that language after their arrival in India, since we cannot suppose that they brought it with them from so uncongenial a locality as a high plateau of Central Asia, their attributed native country. This is not, however, the name by which the plant is known in the languages of India, distinct from the Sanskrit. In the Hindi, a tongue which has many words in common with the Sanskrit, the Sanskrit name is but a synonyme corrupted into *kapas*, the native name being *riü*. In the Tamil we have two names for the plant, *parsgi* and *paruti*. In the monosyllabic languages, which extend from Bengal to China, we have as many names as there are tongues, and these are numerous.

In the Malay and Javanese languages, and in all those of the Indian Archipelago, which have borrowed from them, the name for cotton is the Sanskrit one in the corrupt form already quoted, namely, *kapas*. It is not so, however, in the two principal languages of the Philippines, the Tagala and Bisaya, although these tongues have borrowed largely from the Malay and Javanese, and in them the name is *bulahi*. The furthest eastward among the Malayan Islands to which the cotton plant can be traced as an object of cultivation is the Island of Floris, which extends to the ninth degree of south latitude, and east to the 123rd of east longitude. This island is remarkable for producing the best cotton of the archipelago, and in its two chief languages, called the Endé and Mangarai, it has different native names, being called in the first *reru*, and in the last *kampa*. This leads to the probability that the cotton plant, notwithstanding its Sanskrit name in the two most cultivated languages of the archipelago, may yet be indigenous, and this supposition would seem to be strengthened by the fact that the names for distaff, shuttle, loom, thread, warp, woof, and cloth, in the most advanced languages, are all native words. Taking, then, all these facts into consideration, there seems no ground for believing that the Hindus introduced the culture of the plant and the cotton manufacture into the Malay and Philippine archipelagos. For all that etymology tells us to the contrary,

the cotton plant may be indigenous, and the manufacture from its wool a native art. We are not always entitled to conclude that it was introduced by the strangers to whose language the name belonged, unless accompanied by corroborative testimony, which in this case is wholly wanting. The probability is that the Hindu name was substituted for native ones. It belongs to the Sanskrit and not to any of the vernacular tongues of India, and is one of many words which found their way into the Malayan languages through the medium of commerce and religion in an intercourse between India and the Archipelago, which was at one time of considerable activity.

Cotton, or rather cloth made of it, is stated to have been mentioned for the first time in the annals of China, considered authentic, as far back as 110 years before the birth of Christ. This, however, gives to a knowledge of the plant a far too high an antiquity; for it is admitted that it was not until the sixteenth century of our time that cloth made of it became a staple manufacture of China. Thus in the very beginning of it (1502) an imperial cotton robe is stated to have been as rare as were the silk stockings of Queen Elizabeth at the end of it. The cotton manufactures of China, although substantial and durable, never attained the fineness of those of India; the cheapness and abundance of the Chinese silks, and even the fabrics made from the nettle, to be presently described, taking the place of the Indian muslins and long cloths.

Even the Persian language, which has taken so much from the Sanskrit, has not borrowed from it the name for cotton, which is *punja*, to all appearances a native word. In Arabic cotton is called *kâtn*, and this name, with little alteration, is that which prevails in all the languages of Europe. The Spanish peninsula was the only European country in which the Arabs effected a settlement of long duration, and here they introduced the cultivation of cotton, as they did in Syria, Asia Minor, and Egypt. The European nations made their first acquaintance with cotton through the Arabs. In Spanish the name for cotton is *algodon*, and in Portuguese *algodoa*, which are obvious corruptions of the word *kâtn*, with the Arabic article prefixed.

The culture of cotton never extended in Europe beyond Sicily and the South of Italy, and this only in consequence of their temporary occupation by the Arabs. In every other part of Europe cotton is known only as a foreign import, and as the first supplies of the wool were all derived from the Levant, that is, from Asia Minor, the Greek islands, and Syria, in which the Arabic languages had been long established, the names which it bears in all the languages of Europe are, with more or less corruption, derived from the Arabic. Thus in Italian it is *cotone*, in

French *coton*, and in English *cotton*. The Italians, indeed, have a synonyme, *bambagio*, the origin for which, I believe, has **not been** traced, unless we consider it a corruption of *bombyx*, a name which has been given in Latin to cotton, but as often to silk.

The word cotton is never mentioned by Shakespeare, and but for the occurrence in his plays of the name of one of the meanest of the fabrics made from it, "fustian," we should not have been aware, in so far as his authority is concerned, that a commodity was known in England three centuries ago which we are now yearly importing to the value of probably tenfold that of the revenue of Queen Elizabeth.

In France, however, lying nearer to the then countries of production, cotton was, no doubt, earlier introduced than it was in England; and my friend, Mr. Thomas Wright, so critically skilled in the Antiquities of the Middle Ages, has referred me to the glossary of Ducange, in which cotton is quoted under the names *Coto* and *Cotonum*, and as introduced into France as early as A.D. 1304, in the reign of Philip the Fair.

The other nations of Europe import cotton largely, although in less proportion. To every nation in the world we export it, in its manufactured state, while it contributes largely to our own clothing. Immemorially its fabrics have formed the chief clothing of the nations of the tropical and temperate regions of Africa and Asia. Thus, therefore, the mere hair or down of the seeds of a plant of the same natural family with the common mallow, may be said, of all plants next to the cereals, to have exercised the greatest influence on the industry and destiny of the world. It is remarkable that the cotton should be unique in its properties, the whole range of plants affording no perfect substitute for it, a fact sufficiently proved during the late dearth. With all other plants, it is the fibre of the stem that yields textile materials: with cotton it is the woolly envelope of the seed, attainable with less labour, that does so; while it is the sole plant of which this part of its structure yields a fibre of sufficient length and strength to admit of being spun into good thread.

The Chinese cultivate largely a species of nettle, the *Urtica nivæa* of botanists, for its fibres, and fabricate from it a cloth, far finer than any that they make from cotton-wool. In the economy of the Chinese, this nettle occupies the same place that flax does in Europe. But as this plant is, at least for textile purposes, unknown beyond China, it is unnecessary to enlarge upon it. The Malayan countries produce another species of urtica or nettle, yielding a very tough fibre—the *Urtica æstivans* of botanists. The fibres, however, are used by the

Malays only for cordage and fishing nets, and they have never acquired the skill so to dress them, as to render them fit for spinning and weaving.

The inhabitants of the Philippine Islands cultivate, as one of their staple crops, a peculiar species of banana, the *Musa textilis* of botanists, on account of the long, tough filaments contained within its soft herbaceous stem, the coarser of which are used for cordage, and the finer for the manufacture of cloth. The raw material, or dressed filaments, goes, in the principal language of the Philippines, under the name of *Abaca*, and the Colonial Spaniards give to the banana which yields it, the name of the *arbol de cañamo*, or hemp-tree, from whence our own commercial name of "Manilla hemp." The *Abaca* banana is cultivated over the whole of the Philippines, and for clothing its fibres are even more employed than cotton. Beyond these islands, however, the culture of the textile *musa* has not extended, although the plant be a native also of some of the Moluccas. The Manilla hemp makes an excellent cordage, and for this purpose has, within the last few years, been largely imported by ourselves. The Dutch have recently introduced the culture of the *Abaca* into a part of Celibes, the northern wing of that whimsically-shaped island, where it is not unlikely to succeed. It would most probably suit some of our own West India possessions.

The industrious Chinese have acquired the art of preparing a fine textile fabric from the fibres of the leaves of the Ananas or pine-apple, and instructed the natives of the Philippines in the process. The Chinese colonists in the Philippine Archipelago, where the pine-apple grows in great luxuriance with little care, prepare the thread which they export to China; but to what special uses to be there applied I am not aware, but probably to embroidery. In the Philippines, a fine and costly cloth is made from this material, known as the Piña, an abbreviation of the Piña de Indias, that is, Pine of the Indies, the Spanish name of the Ananas. This textile material is, of course, a comparatively modern one, since the pine-apple is a native only of America, the people of which seem never to have made the same use of the plant, a fact among many others, which proclaims the superiority of the Asiatic over the American races of man.

The only other textile material, which I have to notice, is Jute, the fibres of the bark of a liliaceous plant—the *Corchorus Olitorius* of botanists. The leaves of this plant have, in some parts of western Asia, been used as a pot-herb, and hence its scientific trivial name. But it is in India only, and chiefly in Bengal Proper, that it has been cultivated for its fibres, and its

name, correctly *jute*, belongs to the language of that great province. In Bengal, the fibres of the jute have been immemorially employed in the manufacture of a coarse but strong canvas for the manufacture of sacks, at present largely exported to all the countries producing sugar and coffee. Jute has, of late years, been largely imported into this country, to be mixed with flax, hemp, and wool, in the manufacture of several useful fabrics.

TINCTORIAL PLANTS.

I come now to the question of tinctorial plants. The cultivated plants yielding dyeing materials known to Europe before Columbus and Digama had extended the field of human enterprise and industry, were few in number. I begin with them: Woad, the *Iatis tinctoria* of botanists, a cruciform plant, or one of the same natural family with the turnip and cabbage, was known to the Greeks and Romans, being the chief, and perhaps the sole, source of their blue dye. The plant, and the dye made from it, seem to have been known to our forefathers the Britons, who, according to Cæsar, used it for staining their persons, "so as to make them appear the more terrible in battle." It was, however, most probably used by them as a mere ornament, like the tattooing of the South Sea islanders, and even of some rude tribes of Southern Asia. When in the country of the Burmese, I had occasion to see several examples of women belonging to such tribes whose faces were so tattooed all over with indigo as to have nearly the same appearance as if they had been smeared with the dye itself. A time, no doubt, was when practices similar to this obtained among the now civilised nations of Asia, but at present they are unknown to Arabs, Persians, Hindus, and Chinese, while they still partially prevail with such people as the less civilised Burmese.

Woad appears to have been cultivated immemorially in many parts of Europe, but it is also cultivated in the northern provinces of China, and probably, if we are to judge by the name, even in Arabia. One of the names for woad in Chinese points at the locality of its production. This name is *kewn-quan ta tsing*; literally, "the great blue of Nankin."

Woad bears many different names, seemingly pointing to the different independent localities of which it is a native, or at least in which it was cultivated for its dye. Cæsar calls it *vitrum*, but its usual Latin name is *glastum*, a word which some etymologists have derived from the Celtic word *glas*, which they fancy to signify "blue;" but as the word happens to signify "grey," it is certain that their derivation must be groundless. The languages derived from the Latin retain

the usual name, with some modifications of form. Thus, in Italian and Spanish, the name is *glasto*. The common name of the plant in French is *pastal*, a word the origin of which seems difficult to trace, unless it be a very flagrant corruption of the Latin word. The Teutonic languages have their own distinct name for it. Thus we have it in German as *weide*, in Anglo-Saxon as *wad*, and in English as *woad*. But this Germanic word appears considerably disguised where it exists in the languages derived from the Latin as a synonyme. Thus, in the French it is *guède*, in Italian *guado*, and in Spanish *gualdo*. From this fact, I think it may be inferred that the Germanic nations were acquainted with the cultivature of woad for its dye before they conquered and settled in the southern countries of Europe.

The Basque language has a native name for woad, *urdin-belarra*, from which we may suppose that the culture of woad for its dye was known to the ancient Iberian people, whose language was Basque, before the conquest of their country by the Romans. The Welsh name for woad is *glaslys*, which I have little doubt is a corruption of the Latin, *glastum*; from which we infer that the plant was introduced into Wales, not by the Anglo-Saxons, but by Roman settlers, who most probably were Christian missionaries. In the Gaelic, or Irish language, there is no name for woad; and hence we conclude that the culture of woad never reached Ireland or the settlements of the Irish in Scotland.

The next dye to which I shall refer is Madder, the *Rubia tinctorum* of botanists, at present of far more importance than woad. Madder is a native of all the temperate parts of Europe, or has at least been immemorially introduced into them; for the plant has been cultivated at one time or another in all of them, although to the greatest extent in the warmest parts. In India, another species of the same genus is that which has been chiefly cultivated, but not to the exclusion of the European species. This, the *Rubia manjith*, is a less valuable article, as yielding less colouring matter. Two species of madder, or rubia, are also cultivated in China. Before America had furnished Europe with cochineal and India with the produce of the lac insect, madder was the only substance capable of giving a fast red colour.

The Latin name, *rubia*, has been adopted in the Spanish without change, and in the Italian with very little, as *robbia*. Probably it is the same word that is preserved in the French term *robé*, which signifies madder root freed from the epidermis; but the usual French name of the plant is *garance*, of the origin of which I find no account. Madder may be presumed

to have been cultivated in very ancient times in Spain, since we find it to bear in the Basque what has all the appearance of a native name, *ochharra*.

The Indian madder, as already stated, is for the most part a different species of the same genus, and bears in Sanskrit the name of *majith*. The Hindi, derived from this, is *manjith*, the commercial name of the article. It bears, however, a totally different name from this in the Tamil, for here we find it called *chapanjis*.

Through all the Teutonic languages the name is essentially the same, the only exception being the German itself, in which the name is *rapp*, supposed to be derived from the French verb *raper*, to rasp. Thus it is *meddere* in Dutch, and in English *madder*, a mere difference of orthography. In Chinese, the most frequent name for madder literally signifies "earth-blood." From the many different names of this plant, we infer that, as a cultivated plant, it belongs to many different countries and climates.

Safflower, the *Carthamus tinctorius* of botanists, is a plant of a very wide geographical range, for we find it cultivated in many parts of Europe, of Western Asia, of India, and of China, while it reaches to remote Sumatra and Java, close to the equator. It is but rarely that, through lingual evidence, we can trace its migrations. The botanical name, *Carthamus*, is of uncertain origin, but supposed by some to be derived from the Arabic, to which, however, it is not traceable. We find the name in French as *carthame*; and in Italian and Spanish, as *cartamé*. In the languages of Latin origin, however, it is more frequently called "bastard saffron," and sometimes "Saracene saffron," that is, Arabian saffron; which leads to the suspicion that it was introduced into Europe through Spain by the Arabian conquerors of that country. The true Arabian name of the plant is *azafur*; from which, I strongly suspect, our own safflower is, by a strange corruption, derived. Our earliest supplies of this dye came from the Turkish dominions, and our traders (never good etymologists) may have corrupted the word into its present form. There is, however, another explanation of our English name which may be admissible, and having a similar source. The name for saffron in Arabic is *zafran*; and as it is the flowers of the plant that alone yield the dye, the English name may be equivalent to "flowers of saffron;" a mistake of a similar nature to that of the Latin nations, who call it "bastard saffron, or "Saracene saffron." (

The Sanskrit name of the *Carthamus* is *kusuma*. By the elision of the final vowel (a frequent practice) this becomes, in the vernacular Hindi, *kusum*. The Sanskrit name is continued in the Telugu, or Telinga, language of Southern India; and

from thence has been conveyed to the Malay and Javanese, for the plant is cultivated in Java. Considering that safflower bears a distinct Sanskrit name, we may conclude that its culture has been of an antiquity coeval with the time in which that tongue was a living language. In Chinese, the name for safflower means simply "the red flower." The English consumption of this article is at present almost wholly derived from India, and especially from Bengal.

Saffron, the *Crocus sativa* of botanists, is said to be a native of Greece and Asia Minor, in which it has been immemorially an object of cultivation. But to judge by its name, it is also a native of Upper India, where it is still cultivated. The Latin name, *crocus*, is taken from the Greek, *krokos*, but nearly all the names of this plant in the modern languages of Europe are taken, with little alteration, from the Arabic one, which is *zafran*. Thus we have it in Spanish, with the article prefixed, as *azafran*; in Italian, as *zafferano*; in French, as *safran*; and in English, as *saffron*. The Italian alone has a synonyme, *gruozo*, which may be a flagrant corruption of the Latin *croci*, in an oblique case. From this we may infer that the culture of the plant was first introduced by the Arabs into Spain, from whence it was extended to Italy and the South of France, which at present furnish the chief supplies of an article which has lost, and justly so, the high reputation which it once enjoyed in the *Materia Medica*.

In Sanskrit there are two names for saffron, namely, *kesar* and *kumkum*, the last of which is borrowed by the Hindi, while in the Tamil it bears the same name as turmeric, *manjal*. In Persian the name is *kurkum*, which, with the exception of a single letter, is the same as the Sanskrit. The Sanskrit name also obtains in the Malay and Javanese, the word being, for euphony, sometimes written and always pronounced *kung-kuma*. In Chinese, the name of saffron is the same with that of safflower, the significant epithet "foreign" being added.

Turmeric, the *Curcuma longa* of botanists, is certainly a tropical plant and a native of India, of all its islands, of the Hindu-Chinese countries, and of tropical China, but unknown to equinoxial America. In all the countries named it is an object of culture for its brilliant but fugitive yellow dye, in some places for the food which its starch yields, but far more as a mild aromatic in cookery. In Sanskrit it is called *halda*, which in Hindi becomes *haldi*. In Tamil we have it as *manjal*; in Malay and Javanese, as *kuñit*; in the dialect of Amoboina, as *nnin*; and in that of Ternat, one of the five Moluccas, as *gorachi*. These frequent names point at the plant being a native of many independent localities, and, indeed, to several

independent cultivations of it. The Persian name is *zârd-chob*, literally, "yellow-stick;" a term which shows at once that the plant was known to the Persians only as an imported article, and this, no doubt, from India. I can find no name at all for it in Arabic.

As to the European names, they amount to little better than admissions of ignorance of its origin. The French, for instance, name it *saffran d'Inde*, or the saffron of India, and the German, *gelb wurzel*, that is, "yellow-root," which sets the German nomenclature about on a level with the Persian "yellow stick." The Spanish name is *curcuma*, which is the term which the botanists have adopted for the names of the genus to which *turmeric* belongs, and which these learned men fancy to be Arabic. For this, however, there seems to be no foundation, for the great Spanish dictionary, which aims at giving etymologies, observes of *curcuma*—that it is "a barbarous word confined to the shops." I am wholly unable to trace the source of our own word, *turmeric*. In Johnson's dictionary it is made to be derived from the Latin *turmerica*. But, how could a Latin name be given to a commodity which could hardly have been known to Europe, before the discovery of the route to India, by the Cape of Good Hope?

Arnotto, the *Bixa Orellana* of botanists, is a native of Equinoctial America and its islands. But, being a hardy plant and readily propagated by its seeds, it is now to be found in a wild state, but never in a cultivated one, in the Malay Islands and in southern India. Its Malayan name proclaims its foreign origin. This is *Kasumba Kling*, literally, "Safflower of Kalinga, or Telingana, that is, of the Telugu country, or the coast of Coromandel, which is with the Malays the name given to all India, and not unfrequently to any foreign country. The Telugus or Gentoos, as they used to be called by Europeans, as well as the Malays, most probably received the plant from the Portuguese, and have not thought it worth cultivation.

I come finally to the most important and valuable dye of the vegetable kingdom,—Indigo. Several genera of plants will yield this blue-colouring matter, but the indigo of commerce is supplied by the botanical genus to which it gives name—*Indigofera*, and of the many species of this genus, chiefly by two. For India, its islands, and China, it is furnished by the *Indigofera Tinctoria*, and for America by the *Indigofera anjl.* These are shrubby plants of the natural family of the *Siliquosa* or pod-producing plants. One or other of the species of the genus yielding indigo, is a native of equinoctial Africa, Asia, and America. Although the plants yielding indigo be natives of the intertropical countries, they admit of being cultivated, and

are cultivated up to the 30th degree of latitude, although there yielding less dye, and that of inferior quality.

The Greeks and Romans were acquainted with indigo, but only as the product of a remote country. They never cultivated the plant, yet both nations might have done so, for the climate of Upper Egypt, of which they were masters, would have admitted of its culture, while the seed might have been received from the western side of India, with which both people held a commercial intercourse through Egypt.

Of the nature of indigo, however, the ancients absolutely knew nothing, for the Greek Dioscorides describes it as a stone or earth; and Pliny tells us expressly that it was the "mud of Indian rivers." They used it only as a pigment, and never as a dye. The Greeks and Romans probably made their first acquaintance with indigo, through the Persians, and hence their name for it—*indicon*, or *Indicum*, derived from the Persian name of the country of the producers, namely Hind. From the Greek names, then, come the names of the drug, more or less corrupted in all the modern languages of Europe.

The Hindus were the first, and indeed the only, people of the Old World, who had acquired the art of precipitating the fecula containing the colouring matter from the watery infusion of the fresh plant, and drying them into cakes or balls, so as to make them portable. But for this discovery, indigo never would have reached distant Greece and Italy. Even down to the present day, the indigo of the Chinese, of the Hindu Chinese, and of the Malayan nations, is but a fetid liquor produced by the mere maceration and decomposition of the plant.

The Sanscrit name of both the plant and drug, is *Nila*, corrupted in the vernacular Hindi into *Nil*, and even *Lil*. The word, both in the original and derivative language, signifies also "blue," the noun being in all probability taken from the adjective. In the Tamil the same word is changed into *Nilam*; and in one or other of these forms, it is found in all the current Hindu languages. From this we may, I think, fairly infer, that the art of extracting a blue dye from the indigo plant was the invention of the Hindus of Upper or Northern India; and that the discovery was not made, while those, whose language was Sanskrit, were still in their parent country, believed to have been a cold plateau of Central Asia, where the plant would not grow, or at all events, yield a dyeing matter, but after they had settled in India, where the plant is indigenous.

The Sanskrit name has been introduced into all the languages of the Malay and Philippine archipelagos without alteration. In these, however, the names given to the drug and the plant are

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wholly different, and this last, with variations of orthography, is one and the same nearly in all of them. We have it for example, in Malay as *tarum*, in Javanese as *tom*, in the Sunda of Java as *talum*, in one language of the Philippines, the Tagala, as *tayum*, and in another, the Bisaya, as *tayung*. From this it is fair to argue that the art of extracting the dye was first introduced among the more civilised people of the Malay archipelago, namely, the Malays and Javanese, by the Hindus, but that the plant which is here throughout the *Indigofera tinctoria*, or that cultivated in continental India, is a native at least of Sumatra and Java, from whence it was conveyed along with the art of preparing a dye from it, to the remote Philippines.

The culture of the indigo plant for its dye has been immemorially carried on in China, and is probably of as great antiquity in that country as in India, although it is the latter alone that in ancient and modern times has supplied the drug to the western world. According to Sir John Davis, the name of the dye is *tsing*, of the solid drug *tsing-ping*, that is, "Indigo cake", and of the plant, *tsing-heva*, literally "indigo flower."

The culture of the indigo plant for its dye has never existed in Persia, the Persians receiving the drug with its name from India, the latter being used as with the Hindus to express a blue colour. It may be presumed that it was they who gave the name of the Nilab, signifying the "blue water," to the River Nile, although on what good ground it is difficult to say, seeing that the Nile is not of a blue but of a dirty mud-brown colour. According to the learned *Dictionary* of Dr. Smith, the name of the Nile in the ancient language of Egypt is Atur or Aur, signifying "the River." The Hebrew name for it is Sachar, meaning also "the River," with Yeor, a corruption of the Egyptian name.

But the Hindus were not the only people who had learned to extract a blue colour from an indigo plant. The Spanish conquerors found the Mexicans in possession of indigo, and dyeing their cotton fabrics with it. By chance, too, the Mexican name happened to bear some resemblance to the Indian one. It was called by the Mexicans *anyr*; converted in some dialects of the Aztec language by exchange of one liquid for another into *anyl*. The Spaniards adopted the last of these forms, and the word *anyl* stands in the Spanish dictionaries for the "indigo" of all the other European languages. On no better foundation than this approximation in sound is founded the theory of some ethnologists, and among them of Alexander Humboldt, that the Nila of the Sanskrit is essen-

tially the same word as the *anyr* or *anyl* of the Mexicans. This idle conclusion has been arrived at in the teeth of two very obstinately incompatible facts; the first that the plants cultivated for indigo in India and in America are two distinct species, the one peculiar to Asia and the other to America, and the second that there is no proved community in words, in structure, or in sound between any of the Indian and any of the American languages.

II.—*Some Notes on the Ainos.* By ALBERT S. BICKMORE, M.A.,
of Cambridge, U.S.A.

[Read January 7th, 1868.]

EARLY in the present year, while on my way from Yeddo to Siberia, I arrived at the city of Hakodadi, in the south-western part of the great island of Yesso; and at the solicitation of the American consul, the Japanese governor gave me the privilege of going a few miles beyond the places usually visited by foreigners, and of seeing a real village of Ainos,—the aborigines of that and the neighbouring islands.

Taking a Japanese who could speak a little English for an interpreter and guide, I travelled over the lowlands that border the shore, and northward to a pass in the mountain range which extends along the northern side of Tsugar Strait. Thence descending to a shore of a lake, we passed along the flanks of the active volcano, Ko-man-ga-ta-ki, to Mori, a Japanese village on the south side of Volcano Bay. There we met three Ainos, two men and a woman, who had come a long way from the north side of the bay, and were all refreshing themselves by freely indulging in saki.

From Mori we followed along the shore to Yamakooshnai, fifteen miles to the westward; sometimes over soft, black, volcanic sand, or loose shingle or rounded boulders; and sometimes by the little paths that lead from one fishing village to that in a neighbouring cove. From Yamakooshnai we travelled five miles to Urope, a village of three or four Japanese, and about twenty Aino houses. These latter were scattered irregularly near the shore, over a broad belt of sand that had been drifted back by the easterly winds. They all have the same rectangular form, and are similarly situated in regard to the shore.

The best have a house about 30 feet long by 20 feet wide. To this is attached a porch of about 12 feet by 8, and around the whole is a straw fence. The house and porch are built of a light framework of small poles, fastened together with strips of bark, and covered with long millet-straw. The walls are about four feet high, and slightly sloping. The roof projects a few inches at the eaves, and rises equally from each side. In the walls, under the eaves, there are two or three holes, a foot in diameter, which serve as win-

dows. In entering, you pass through the straw fence into the porch, and thence through a door into the house. Most of them have no floors, but the sand is partly covered with coarse straw mats; and on one side there is frequently a kind of rude platform of boards, resting on stones or blocks of wood. This they use to lounge on by day, and to sleep on by night. The house is generally all in one room, and likewise the porch; but in the former a partial partition is sometimes made by hanging up mats. In the centre of the room, a fire is made on the sand, and over this and about three feet above it is a framework, held up by strings from the rafters. There they place the fish they wish to smoke; and it also serves for a cupboard or closet, where the smaller iron pans and kettles may be put away. There is no chimney of any kind, and I did not even see a hole in the roof where the smoke might escape. Everything overhead is, therefore, black with smoke, and has a shining, oily appearance. Each house has a few iron kettles and frying-pans of Japanese manufacture, and these, with wooden dippers and some large valves of the pecten, comprise all their cooking utensils. In several I saw a considerable number of Japanese lacquered dishes. They make a fire with flint, steel, and tinder, which are kept in a bag of undressed deer-skin.

In the first house we entered, the man was seated cross-legged in one corner, making iron spears with a fire of charcoal and a Japanese bellows. The woman was crouched near the fire, twisting thin strips of the inner layer of the bark of some tree into a continuous line, as large as a mackerel line. It is from such material, and in this way, all the lines for their fishing nets are made. They had four children, all boys; the eldest ten, and the youngest two years old. The younger two had no clothing whatever, and the other two were only provided with a loose jacket, though it was quite chilly. With such exposure, evidently a large proportion of their children must perish. In the next house, the dimensions of which I have given above as a model, we found an old man, his son, and three women. The old man said he was seventy-five, and his white hair and white beard made it appear probable; yet a young woman, apparently of twenty, was introduced to me as his wife. She was demurely at work apart in one corner, making a straw mat after the Japanese style, and when she spoke, it was only in a low, solemn, almost drawling tone. Another young woman was weaving a piece of coarse cloth, about ten inches wide, from strings of twisted bark, like those mentioned above. These strings were fastened at one end to a post, and at the other end to a board, which she kept leaning

against while she changed the warp, passed through the filling, and pressed it down with a sharp-edged board. This may be properly described as *weaving without a loom*, and suggests the query, whether the aborigines of the Pacific islands may not have woven their cloth in the same manner. This is the only kind of cotton the Ainos use in any quantity. In front of this house,—that is, on the side toward the shore,—there was a kind of rack filled with poles, each having on its top the skull of a bear. In this single place I counted *twenty-nine* skulls,—a number that must have placed our old friend and his son high in the estimation of his Aino companions.

In another house, we found a man and his wife seated by the fire; the woman was sewing, but the man was doing nothing, while the whole bay was swarming with fish. He showed us the bow he used in hunting the bear; but would only sell a model of it, declaring they considered it very disgraceful for an Aino to part with the bow he was accustomed to use. I succeeded, however, in obtaining a real arrow. The after-part of the shaft was of reed, the fore part of solid wood to make it fly point foremost, and the barbed part was of bamboo. They carry short knives; but they rely on their bows and arrows when they would attack a bear or kill a deer. I saw no lances, nor any implements of bronze, copper, or stone. I also purchased a pair of rude snow-shoes, each made of two plain pieces of wood, curved like an ox-bow, with the straight parts fastened together with a strip of deer-skin. The woman sold me a knife, with a scabbard of wood and ivory, rudely chased. It was the only piece of ornamented work I saw.

Near each house there is a small one about eight feet square, on a platform five or six feet high. Here they store their fish, in much the way the natives of Sumatra preserve their rice.

When a woman marries, they tattoo her upper lip, and sometimes the under one also. A favourite pattern has the ends curled up, in just the way exquisites frequently curl up the ends of their moustaches. Several times I inquired what was the cause or origin of the custom, but always received the reply, "because it is the Aino fashion", which may, perhaps, be as good a reason as could be given for a thousand foolish customs in the most civilised lands. Unfortunately, it gives these Aino women the appearance of trying to add to their charms by artificially making up for what they seem to regard as a defect in Nature's handiwork. The women also tattoo the backs of their hands in narrow transverse bands, but no other parts of the body. They never blacken the teeth, nor compress the feet.

In each Aino village, the oldest man, or a very old man, is

the chief, and he in turn is responsible to a Japanese official styled "the Aino interpreter." As the chief of Urope was away, we called on the interpreter, who was also absent; but a sub-official gave me some farther items in regard to the strange people under his charge. They cultivate millet and potatoes, but no rice. In one hut I saw a wild plant, finely chopped. When they kill a bear, they are allowed the head, but the skin must be given to the interpreter. They are allowed, however, to wear deer-skins, and the woman that I saw at Mori wore an outer dress of that kind; in the Kurile islands, and eastern shores of Saghalien, they are mostly clad in sealskin. I was also told that when they find young cubs they bring them home, and the women nurse them like their own children.

Returning to Yama Kooshnai, I continued on to Mori, and made that day twenty miles over the sand, rocks, and shingle. The next day I reached Hakodadi, thirty-two miles, having made on foot in the six days one hundred and thirty miles. On my return, I found that eight Ainos had just arrived in a couple of junks from a place on the south coast, a short distance east of Endommo Bay. With the prospect of receiving a small present, they readily came to the residence of Colonel Rice, the American consul, whose kind hospitality I was then enjoying. They all sat down cross-legged, in true Turkish style, ranging themselves in a straight line, the oldest man on their extreme left, the highest position of honour, and the others according to their ages, to the youngest, in their extreme right. They could not tell, however, how old they were, but said the Japanese officials kept a record of their ages. As soon as they were all seated, they began their salutations, which consist in slightly inclining the body forward, at the same time raising both hands as high as the eyes, with the palms inward and the middle fingers nearly touching each other. The hands then pass down along their beards to the chest, and the women and boys, also, make this peculiar motion. This is repeated three times while they face their principal host, and once when they turn toward the others. When they wish to express particular respect, they accompany these motions with a low muttering. Saki being their favourite drink, each was offered a glass and a chopstick. Taking the glass in the left hand and the stick in the right, they touch the end of the stick into the liquor they are about to drink, and slightly raising it, describe a circle, with an upward and inward motion. These motions are repeated several times, and accompanied with a low monotonous prayer, which they informed us was not uttered in our behalf, but addressed to

the god of the sea, asking that they might be preserved in their boats, and find an abundance of fish. Each man then used the chopstick to raise his moustache while he quaffed the delicious drink. One of their number spoke Japanese quite fluently; and Mr. James J. Ensle, the Japanese interpreter at the British Consulate, and himself the author of two interesting papers on the Ainos, kindly volunteered to ask them a list of questions I had prepared; but as some of the queries proved perplexing, they became tired before the list was completed, and I failed to get all the information I desired.

In the following statements there may be some customs and ideas peculiar to the part of Yesso from which they came, and not true of all Ainos. They have many gods; but *fire*—not the sun, the moon, or the stars—is the principal one, and they are accustomed to pray to it, in general terms, for all they may need. They do not buy their wives, but make presents to the parents of saki, tobacco, and fish. At their marriages they make no great rejoicing. Their only feast is at the new year, when they make offerings to all the gods. When a wife dies, they *burn* the house in which she has lived; but, when a man dies, they merely *bury* him. To inter a body, they dig a hole in the ground, and lay in planks in the form of a box. The body is then clothed in *white*, and placed in the box at full length, with the head to the east, *because that is where the sun rises*. But it is not the universal custom to *extend* the body when it is placed in the earth; for when some bodies that had been stolen were returned to the British authorities, a box containing a child was opened, and the knees were found bent up against the chin, like those of a child before birth. A widower may marry again in two or three years, but a woman can marry only once (this the interpreter probably meant to say was their law, but not their universal custom). A man can have but one *wife*, but any number of concubines, and each of these always lives in a separate house. At present they have no king but a high chief, who lives at Saru (a place on the south coast, just north of Cape Yesan). The interpreter had met other Ainos with whom he could not converse (that is, there are at least *two different dialects* in the Aino language). They keep no cats, but catch rats with traps. They have “only Japanese horses.” They keep fowls, but no ducks. They use their fowls, and what wild birds they can take, for food; but never eat *eggs*. They have no special burying-grounds; and they only desire to forget their deceased relatives and friends as soon as possible. They never even allude to the dead; and it would be considered little less than an outrage if a man should call on another and inquire for his

deceased wife, and say, "Oh, is she dead?" They say they can make poison; but declared they kept it such a secret that even the Japanese officials did not know the process. They have no idea where they came from originally. They have no written characters, and only oral traditions. They have no doctors but sorcerers, whose advice they are accustomed to ask. A Japanese doctor, who had lived long among them, told me, that when a man was lost at sea or while hunting in the mountains, his wife cries and moans, and her neighbours gather and beat her with sticks to make her forget her sorrow.

After these questions, I took the following measurements of the man who had spoken Japanese, and his companion, and add some of a man seen at Mori.

	No. 1.		No. 2		Man seen at Mori.	
	ft.	in.	ft.	in.	ft.	in.
Height	5	13 $\frac{3}{4}$	5	2		
Round the head horizontally, just above the eyebrows	1	10 $\frac{3}{4}$	1	10		
Round the chest, immediately beneath the arms	2	10	2	10 $\frac{1}{2}$	2	10 $\frac{5}{8}$
Round the abdomen at the navel	2	7 $\frac{1}{2}$	2	9 $\frac{1}{4}$		
Length of the arm to the end of the middle finger	2	2 $\frac{1}{2}$	2	4 $\frac{1}{2}$	2	1 $\frac{3}{4}$
Round the arm at the largest place	0	10 $\frac{1}{4}$	0	10 $\frac{1}{4}$		
Round the forearm at the largest place	0	10 $\frac{1}{8}$	0	10 $\frac{5}{8}$		
Round the leg at the calf	0	12 $\frac{3}{8}$	0	13 $\frac{3}{8}$		
Round the foot vertically at the instep	0	10 $\frac{1}{8}$	0	10		
Length of the foot	0	9 $\frac{1}{2}$	0	9 $\frac{7}{8}$		

Their chief peculiarity is their great abundance of hair, not only on the head and face, but over the whole body. Their heads are thick and shaggy. The hair on the head is worn so long that it reaches their shoulders and mingles with their beards. This, according to tradition, was the custom of their earliest ancestors, and one they have continued despite the attempts of the Japanese to make them adopt their own fashion of shaving the crown of the head. Yet their severe rulers appear to have never resorted to the extreme measure that the Manchus did when they conquered China, for they only gave the Chinese the simple alternative of shaving their heads or having them cut off.

Their hair is coarse and straight. Their eyebrows and eyelashes are very thick, and like their hair and beards, of a jet black till past middle life, when, as with us, it becomes gray, and in extreme old age changes to white.

Their eyelids open *horizontally* and quite widely, and not partially and obliquely like those of the Japanese, who, how-

ever, have this peculiarity in a less degree than the almond-eyed Chinese. Their eyes are bright and sparkling, and intensely black. From exposure to the sun and wind, and probably from the continual smoke in their huts, and their being not over cleanly in their persons, they have a reddish-bronze tinge, but little, if any, darker than that of the Japanese coolies.

The full development of their chest gives them a noble and hardy appearance, as compared to their effeminate Japanese rulers. They seem to be endowed with great vitality and endurance, and the simple fact that they maintained their independence for 1800 years against the constant attacks of the more civilised Japanese, proves in itself their bravery and determination.

They are perfectly overflowing with good nature, and kind feeling is shown even to strangers. The expression of their faces at once convinces every one of their perfect honesty, and is in marked contrast to the reserved, crafty looks of the Turanian races. They appear to be of a mild, contented disposition, instead of being filled with the restless, roaming spirit of the Mongols and Manchus.

A man who was wrecked on the coast of Kamschatka, and came down along the Kurile islands and the coast of Yesso to Hakodadi, told me that everywhere he landed he was invariably most kindly received by these people, and furnished with a full supply of such food as they had.

They have no written characters. The only approach to such a thing, of which I was able to hear, was that in the southern part of Jaghalien the old men can send information to each other by notching sticks in a peculiar manner, but only the old men can understand what is meant by this notching.

Undoubtedly the earliest accounts of these people come down to us through Japanese histories. According to a Japanese chronology compiled from the most reliable sources, and kindly translated for me by Father Nicholai of the Russian Legation at Hakodadi, Jiu-mu, the first Japanese emperor appeared at Kiu-siu, at Hun-ga (or Hewng-ga) in B.C. 677. In B.C. 663 he first came to Nipon, but was defeated and driven back by the aborigines. No mention appears in these histories of the arrival of any new people, and the Japanese all understand that these "aborigines" were the ancestors of the present Ainos. Thus this almost unknown people appear in history in the time of Nebuchadnezzar, and several centuries before the nations in the north-west of Europe were described for the first time by Cæsar in his "Commentaries."

In B.C. 660 Jiu-mu returned to Nipon, and effected a permanent settlement on the south-eastern part of the island. In A.D.

272, the Ainos for the first time brought presents to the Japanese and acknowledged them as their rulers. At this time they occupied all the northern part of Nipon. In A.D. 352 the Ainos rebelled, and in the year 366 defeated the Japanese, and killed their general. During the next two centuries they appear to have been completely conquered, for an educated Japanese informs me that as early as A.D. 655 the Japanese sovereign had established a kind of government over the Ainos, which was located near the great volcano of Siribiton on the north shore of Volcano Bay, in the Island of Yesso. In A.D. 1186 Yoritomo usurped the ruling power and becoming jealous of his brother, Yosi Tsunay, had him put to death—according to Japanese history—at a headland on the east coast of Nipon, now called Cape Shendai. But according to tradition, and as is most generally believed to be true, Yosi Tsunay escaped to Yesso and, treating the Ainos with the greatest kindness, was deified by them, and now he is their chief hero. Tradition further says he was pursued even in Yesso, and forced to flee to the coast of Mancumda, then perhaps also inhabited by the friendly Ainos.

At Hakodadi, an educated Japanese informed me that up to a short time ago the ruins of a rude fortification, supposed to have been made by the Ainos, was to be seen on Nambu point, the most north-eastern point of Nipon, and that similar ruins are reported still to exist among the mountains in the northern part of that island. Some ruins of a rude kind are also reported at Saru, a place on the south coast of Yesso, where the chief descendent of the old Aino kings is supposed to be now living.

During my stay at Nikolaefsk, at the mouth of the Ainoor river, I became acquainted with a Cossack who had been sent by his government among this people in the southern part of the island Sagnalien, to learn their customs and their language. He communicated the following observations to me regarding them. They have no cattle. They eat dogs. Formerly they used only implements of stone and bone, and those of stone were used till quite lately, *i.e.*, a short time before he came to dwell with them. They reckon time by twelve months and three seasons. The first season is when the snow melts; the second when the flowers unfold; and the third when they all fade. In regard to their origin, every village gives a different legend. They have no marriage ceremonies. They do not buy their wives, but work for the father. When a woman is in labour, she is not separated from the rest of the family, but is kept from her husband till one month has passed. When a man is sick, they kill a dog and offer it to the mountain—the

higher the mountain the more they revere it. The Cossack thinks however that they do not pray to the mountain itself, but only ask it to intercede for them with the great deity who is higher. They are superstitiously afraid of the Japanese, and believe they have the supernatural power to do them any harm. (It is chiefly by these means that the Japanese hold them in such perfect subjection.) For a theft a man is fined. If a woman is unfaithful, her husband merely reproves her; and if no one but he and the guilty parties know of it, the husband would probably speak of it to no one. An Aino may have two or three wives (the Cossack does not know any man who has four or more). The Gilyaks usually have two. Among the Ainos a widower may marry again in a month. They do not suckle young cubs (as has been reported of other branches of this people). When the bear is fully grown, they kill him and eat him, and make a great feast. They do not worship the bear, but raise him and kill him merely for the sake of a festive occasion. They have no holidays. When a man dies, they bury him, not dressed in white, but in the best suit he may have. The corpse is placed at full length in a box, with the face upward. They also bury children in an extended position. When an Aino dies, all cry and mourn most bitterly, even the little children. The Cossack regards them as a very affectionate people. When a widow cries, they do not beat her with sticks. A man who comes to mourn with her does not mention the name of her husband, for fear of reminding her of her loss and increasing her sorrow. They do not cultivate anything. They use a kind of wild potato. They make their houses of bark, and on approach of winter they cover them with straw. They never build them of stone or wood. The Gilyaks build theirs of wood, but never of stone. The Ainos eat eggs. They have no mice, but thousands of rats, which they catch in traps, but not to eat them, like the Chinese. They worship the sun, moon, and stars, but only as intercessors. Their name for the island of Saghalien is "Karaptu."

Although the Ainos had long been completely subjugated by the Japanese, some of them still continued to live on the island of Nipon, till about four hundred years ago, when they were all banished to the island of Yesso, the most southern part of the area they now occupy. Besides Yesso, they occupy the southern part of Saghalien, as far north on the west coast as Pilyawo (lat. $50^{\circ} 10' N.$) and the east coast to Cape Patience, in lat. $48^{\circ} 50' N.$ There is also a colony of them between Cape Elizabeth and Cape Maria, at the extreme north of this island. This isolated fragment of this weak people is very interesting, inasmuch as it suggests the subsequent and late occupation of

the northern part of Saghalien by the Protchis and Gilyaks, and in regard to this latter people it may be mentioned that the ruins of their former villages are yet to be seen as far north on the mainland as opposite the Shanton Islands, though their most northern village now is Kully, in about $53^{\circ} 40' N$. They also occupy the Kurile Islands, and are said to be seen sometimes on the southern extremity of the peninsula of Kamtschatka.

Although I have visited the Mancumian coast, and during my journeyings have met men who have traversed most of the area between the Usuri and the Japan Sea, I have found no one who has seen or even heard of a single Ainu on the continent. The population of this people on the island of Yesso is wholly unknown, the tribes in the interior being still independent. As they live chiefly, however, by hunting and fishing, the majority probably live on the sea coast, at least during the season for taking salmon. Their numbers on the Kurile Islands is very small.

In the year 1857, Lieut. Rudanovsky was sent by the Russian government to ascertain the number of this people on the Island of Saghalien. His report is as follows:—

In Aniwa Bay, east-shore . . .	25 villages,	91 yurts,	535 persons.
" west-shore . . .	10 "	46 "	143 "
Ohotsk shore . . .	22 "	64 "	473 "
Coast of the Gulf of Tartary . .	35 "	129 "	1,268 "
In the middle of the island, along a river . . .	3 "	10 "	60 "
<hr/>			
Total . . .	95 villages,	350 yurts,	2,479 persons.

This table also shows the small proportion of this people that do not live on the sea shore. On the Japanese maps of Yesso many Ainu villages are represented along the rivers and borders of the lakes, but the Japanese also say these people are independent in the interior, and from what we know of their habits elsewhere, we may expect that there also most of the population will be found to dwell on or near the sea shore. If we estimate the Ainu population at Yesso at three or four times what it is on Saghalien, that is from 10,000 to 12,000, we are probably placing their number at a high figure.

It is now more than *two thousand five hundred* years since these people appeared in history. Then they possessed at least all the beautiful and fertile island of Nipon—now they are only allowed the island of Yesso, the southern part of Saghalien, and the stormy Kuriles. Then they were independent and powerful; now they are oppressed by the most brutal and merciless of masters. In proof of this strong assertion I may

add that a Russian officer stated to me that some time ago a considerable number of this people came to the former Russian boundaries on Saghalien, and desired to put themselves under the protection of the Russian official stationed there, and when he had declined to receive them through a fear of complicating the two governments, and had sent them back, the Japanese beheaded them to a man.

Under such savage treatment their numbers must be constantly diminishing, and even on the Kurile Islands, that have now been under the Russian government for some time, they are also found to be disappearing; the cause assigned here is that a large proportion are lost in crossing from island to island in their miserable boats. These facts lead us to the painful conviction that these people, which in the true sense of the phrase may be called "the children of nature"—savages for want of intellectual cultivation, but not savages in disposition—are rapidly passing away from the face of the earth, and if our modern civilisation had been a few centuries later in finding its way to this remote region of our globe, all the information we should have had would have come to us through the records of their cruel oppressors.

In regard to their language, Lieut. Rudanovsky says, the people of Saghalien speak a different dialect from those on the Kurile Islands. The Cossack, who spoke the former dialect, characterised the language as containing many gutturals. At Hakodadi I found that the Japanese had made for themselves a dictionary of the language by representing the sounds of the Aino words with their own characters.

In their eyes, which open widely and horizontally; in their cheek bones, which are not prominent; and in their abundance of hair, these people differ from all branches of the Turanian family. But in these same characters they call to mind the features of the bearded peasants of the Slavonian branch of the Aryan family. Are they therefore nearly allied to the Indo-European races, and while this branch migrated westward, did another branch of the same great Aryan family pass to the east, until they came to the islands that now form the Empire of Japan? and do their descendants now appear before us in the persons of this isolated and peculiar people?—the Ainos.

III.—*On the Theory of the Origin of Species by Natural Selection in the Struggle for Life.* By JOHN CRAWFURD, ESQ., F.R.S.

[Read January 21st, 1868.]

I PROPOSE in this paper to state, in so far as concerns the natural history of man, such objections to the Darwinian theory as have occurred to me, and which oblige me to refuse my belief in opinions which have received the assent of many eminent men of science. In doing so, I hope I shall be found to state them in those terms of respect and deference which are justly due to them, and more especially to the ingenious, accomplished, and candid author of the theory.

The Darwinian theory was suggested by the well-known difficulty of determining in plants and animals what it is that constitutes a species, when many species so closely resemble others as to seem but mere varieties. Hence it has been inferred that, in the course of countless ages, a small number of crude types, through a process of beneficial natural variations, have been transmuted into the many species into which the organic world is now divided. The object of the theory is to demonstrate that the whole organic creation did not, as geological evidence would seem to show, originate in a series of creations; but, on the contrary, had its source in causes gradually and continuously in action, and differing in no respect from those at present in actual operation. This view supposes all organised beings to be derived from a few, or even from one progenitor or prototype. "I cannot doubt," says Mr. Darwin, "that the theory of descent by gradation embraces all the members of the same class. I believe that animals have descended from at most only four or five progenitors, and plants from an equal or even lesser number." He is, indeed, disposed to go further than this, and to derive all organised beings whatsoever from a single progenitor. Here, however, he judges from the analogous structures and chemical composition of all plants and animals, admitting that analogy may be an unsafe guide, and so the number of the progenitors of the theory may be reckoned at from eight to ten.

But what, it may well be asked, are these progenitors or prototypes, for these words are but generic terms, which convey no notion of size, form, or quality? We must, in fact, consider them as atoms or monads of unappreciable minute-

ness, not visible even by the solar microscope; in truth, nothing better than "such stuff as dreams are made of".

The theory supposes that from the hypothetic progenitors in question—the origin of which it is as impossible for the human mind to conceive as the origin of the universe itself—have descended all living things, from the smallest infusorial animalcule up to the elephant, the whale, and man himself. These mighty results are to be attained through the preservation of "favoured races in the struggle for life"; that is, by a perpetual sequence of profitable variations in every species of plants and animals. The profitable variations, however, which the mutations produce, are so slow, so minute, and so unappreciable that the hypothesis demands millions of years for their accomplishment; an assumption which, as it is unsupported by any fact, places it at once beyond the reach of human investigation, relegating it to the realm of pure fancy.

Authentic history certainly affords no evidence in favour of the theory of beneficial mutation by natural selection. The wild and even the domestic animals of Egypt have undergone no change since times of an antiquity, which has been variously estimated at from five thousand up to ten thousand years. In the Egyptian catacombs have been found mummies of the ibis and the kestrel hawk, not differing in feather, or the spot of a feather, from these birds of Egypt of the present day. The ox, the ass, the dog, the goose, represented on the Egyptian monuments of equal antiquity, are the same varieties which exist now. If, then, thousands of years have produced no change at all, it is reasonable to believe that, except in dreams, millions must be equally inoperative.

If the living beings of the present earth afford no evidence in support of the theory of transmutation by natural selection, neither do those which lie buried in the earth's crust; and this is, indeed, fully admitted by the ingenious author of the theory himself. "Why," says he, "does not every collection of fossil remains afford plain evidence of the gradation and mutation of the forms of life?" and he answers, with a candour which is natural to him, "we meet with no such evidence, and this is the most obvious of the many objections which may be urged against my theory." The answer to the objection is, that "the geological record is imperfect." The imperfection, however, seems to amount to no more than that the record affords no evidence whatever in favour of the theory of mutation by natural selection, while it is perfect enough in an opposite direction, showing that the lowest forms of life came first into existence, and were followed by a successive series of improvements, ending with man.

As to "the struggle for life", there is no doubt but that, through all living beings, it is the weak that perish and the vigorous that survive. Nature, in some cases, takes some pains for preserving the integrity of the species, but never for its improvement by mutation. Thus, with some gregarious animals, the vigorous males, to the exclusion of the young and feeble, are the fathers of the flock or herd. At the beginning, according to the theory of natural selection, there could have existed no "struggle for life," when a few monads, imperceptible by the microscope, had the whole earth to themselves.

Nature, no doubt, supplies us with wonderful mutations of form and character; but they bear no analogy to those ascribed to the Darwinian theory, which are more extravagant than the metamorphoses of Ovid. The tadpole turned into a frog, the caterpillar into a butterfly, and a maggot into a bee, are wonderful mutations; but nothing in comparison with those which suppose eight or ten nameless atoms to have peopled the land and the waters with all their varied forms of life. To bear any resemblance to the transformations of the Darwinian theory, the frog ought at least to be transformed into a crocodile, the butterfly into a dove, and the bee into a falcon or eagle.

The arguments in support of the theory of natural selection are, of course, chiefly derived from the varieties which occasionally arise in plants and animals; and this part of his subject Mr. Darwin has elaborated with the great skill and ingenuity of a most accomplished naturalist, who has travelled far and studied long. The objections which here present themselves are obvious. Variation in the wild or natural state of plants and animals is rare and evanescent, and can in no case, as far as I know, be shown to result in improvement, or what Mr. Darwin calls "profitable variation". It is only in the cultivated state of plants, and the domesticated state of animals, that variation is frequent; that is, after plants and animals have been long subjected to the control and direction of man. Even then it is but a small number of both that undergoes variation at all. The variety which takes place, therefore, under man's direction ought not to be taken into account at all; because, if the theory be true, variation must have been rife for millions of years before man existed,—the geological record, the true history of these countless ages, affording no evidence of it.

But, even in plants and animals, which undergo variety under man's control, there is a vast difference in the degree in which they do so, even when we are tolerably sure that the wild sources are the same species. Thus, the variety which the blue rock pigeon and the Indian jungle fowl undergo is

endless; while the ass, the two camels, hardly vary at all. Even when variety takes place, it ought, as Mr. Darwin expresses it, to be a profitable one to the individual; that is, be such an improvement as shall enable it to survive its cotemporaries in the "struggle for life". But it turns out to be the very reverse of this. Plants and animals may gain in those qualities which make them most useful or agreeable to man, but they lose those properties which enable them best to maintain the struggle for life. Our poultry lose, for the most part, the power of flight. The domestic ass, when well cared for, increases in size, but no longer possesses the fleetness of the ass of the desert. The jungle-fowl of India is a small bird, but vigilant, shy, and powerful of wing; while the domestic bird is large, heavy, and dull, and if turned into the woods of its native country, would unquestionably perish from incapacity of feeding and defending itself.

Mr. Darwin has given special attention to the breeding of the blue rock pigeon, the only species of its numerous family which is amenable to domestication, and which sports into varieties. These varieties seem to be indefinite in their amount; for besides the more usual sorts, distinguished chiefly by colour, we have such varieties as tumblers, runts, fantails, barbs, pouters, and carriers. Not one of these can be said to have any superior advantage over the wild blue pigeon in so far as regards capacity to maintain the struggle for life, and some of them are of such defective formation that they would surely perish were man's care withdrawn. Moreover, the varieties produced by domestication are not permanently profitable to the individual, as the progressive theory would have us to understand; for it has been ascertained that when the common house pigeon joins the wild birds, its peculiarities are, in a short time, absorbed in the mass of the primitive stock; whereas, had the variation been advantageous, it ought, according to the theory, to have been heritable, displacing the wild bird.

It is the same with cultivated plants as with domesticated animals; they gain in size and acquire properties useful or agreeable to man, but they lose in capacity to maintain the struggle for existence. Some of them, such as the cultivated rose, the banana and the pine-apple, lose the power of propagation by seed, that is, become virtually sterile, and but for man's care would perish. Domesticated animals and cultivated plants are, in short, but feeble competitors with their wild congeners, and ought not to be quoted as profitable mutations, to say nothing of the non-existence of such varieties for the millions of years which preceded man's first appearance, and

during which the theory, were it true, must have been in full operation.

One might have expected that the theory of development by natural selection would, instead of four or five progenitors for animals, and the same, or even a less number for plants, have amounted to a number at least equal to that of their respective natural orders. This would at least have dispensed with the necessity which now exists of imagining such violent and seemingly miraculous transitions as, for example, the growth, in due time, of a mushroom into an oak, or of a sponge into a whale.

The theory makes no provisions for disparities of climate, or for the geographical distribution of plants and animals as they now exist, frequently independent of climate. On the contrary; it supposes every plant and animal of land and water to have sprung from eight or ten invisible and indescribable progenitors, which in this case must be imagined to achieve distant migrations; which we know to be impossible to their most fully developed descendants—even to man himself until within the last few generations.

The theory of natural selection by profitable variation of species of course supposes indefinite improvement. For the present, the transmigrations have had their climax in man; but if the theory were true, it ought, after a lapse of a period of time equal in length with that which has transpired since a monad became a man, to produce a being twice as highly gifted as the existing race of mortals. The theory, however, is supposed to terminate in absolute perfection; but why, if the principle of development be well founded, it should ever end at all, is not explained. What, then, does absolute perfection consist in? To form any conception of it is beyond human understanding, and even the imagination can but form a dim and vague notion of it. The Buddhist doctrine of the metempsychosis cuts the matter short by supposing supreme happiness to consist in absorption into the essence of the Deity, after a long series of transmigrations beginning with a worm, and rising to the dignity of a white elephant and a king—a solution which is probably as intelligible as Dr. Johnson's definition, which makes perfection an attribute of the Deity: which is but getting rid of an insuperable difficulty by taking refuge in the imagination. Even the Buddhist euthanasia would provide only for the highest members of the scale, leaving the rest of living creation to pursue the struggle for life until the turn of all came, when the earth would, of course, be without inhabitants.

A great geologist and naturalist, Sir Charles Lyell, fancies

that he sees in the origin and development of languages a corroboration of the Darwinian theory.* The hypothesis on which this view is founded is of recent German origin, and supposes languages, like the prototypes of the theory—the development of species by natural selection—to have been originally few in number, and that from these few have come the multitude of tongues now found to exist, and which have existed in every authentic period of history. The very reverse of this hypothesis is the fact, and it is not in the nature of things that it should be otherwise. The framing of a language is an operation as factitious as the fashioning of a club, the kindling of fire, or the conversion of a stone into a cutting instrument. When man first appeared he was as destitute of articulate speech as he was of material objects, the mere work of his hands and brain; and he had to compose a language, at first rude and scanty, corresponding with the paucity of his ideas, as he had to fabricate rude tools and weapons.

Languages, instead of being few in number, must have been originally numerous; and for this obvious reason, that man at his first appearance, in his then ignorance and helplessness, must have been thinly scattered over the face of the earth; and this in small tribes or communities, so as to enable them to obtain food. In that early stage men must have been ignorant of each other's very existence, or, if one tribe knew another, its knowledge would extend only to its nearest neighbour, and then only in the quality of an enemy, contending with it in a genuine struggle for life, that is, for a bare subsistence. Each isolated tribe had to frame its own language, and hence a multiplicity of independent tongues was inevitable. Accordingly, in proportion as we approach to the rude primitive state of society, to which I am now referring, independent languages are found to be numerous, while they become fewer in proportion as we recede from it.

The illustration, then, which the origin and history of language is supposed to give the Darwinian theory, is simply a mistake, and is not a whit more to the purpose than would be the origin of the use of flints for cutting instruments, or of clay for vessels.

In further support of the Darwinian theory, it has been taken for granted that no language—at least no European language—has continued a living tongue beyond one thousand years; the object in this case being to show that languages, like organic species, are subject to transformation. I am satisfied that the

* *The Geological Evidence of the Antiquity of Man, with Remarks on the Origin of Species.* By Sir Charles Lyell, Bart., F.R.S.

alleged fact is groundless. A language expresses the ideas of the social condition of the people who speak it; and if that condition be stationary, the language must continue a living tongue, not for one thousand years, but for ever. Thus the languages of the Australians had reached the highest mark which those of a people could possibly have attained whose land yielded no plant for cultivation, no animals for domestication—who held no intercourse with strangers from whom they could have derived benefit—and who, moreover, were among the lowest types of mankind. A people in such a condition being doomed savages, their languages would necessarily represent the ideas of savages only; and they may have been in the condition they were in, when first observed by civilised man, not for a thousand but for thousands of years.

It is not necessary, however, that a people should be savages labouring under insuperable privations, in order that language should be nearly stationary and of long endurance. The Arabs of the age of Mahomed were barbarians but not savages. They were already in possession of a copious, and therefore an ancient language, and the Koran is still considered good Arabic, although written twelve centuries ago. Modern Greek is known to differ from the Greek of the Homeric poems only in the loss of a few inflections; so that the duration of Greek may be reckoned at some threefold the length of time theoretically allotted for the duration of a living language.

It is conquest by strangers alone which, by substituting their own tongue for a native one, puts an end to a living language. It by no means always does so even then. It has not done so in certain parts of Britain, Ireland, France, and Spain; and there can be no good reason for not concluding that the native languages now spoken in Ireland, in Wales, in Brittany, and in Galicia, may not have been the languages of the time of the Roman conquests, or, indeed, that they may not even then have been ancient languages—the primitive tongues of the inevitable savages who first constructed them. The support, then, which the theory of development receives from the history of language, we may safely conclude, is purely illusory.

There is one argument against the theory of natural development by variation which seems to me to be fatal to it. This consists in the existence of the parasites of plants and animals. These are of inferior organisation to the beings on which and through which they live. They must, therefore, have been either cotemporaneous or posterior creations to the bodies to which they owe their existence, and as such, either equal or superior developments, instead of being always inferior ones. Why is the mistletoe or the fungus of inferior organisation to

the trees to which they owe their lives? Being either cotemporary creations or more recent developments, they ought to have been more perfect organisations. If man was the last and most perfect emanation of the Darwinian theory, the parasites which trouble him; which are never seen without him, and which are ever most numerous as we approach to the time of his first appearance, being coeval with or of later creation than himself, ought to be his superiors. The theory of progressive mutation by natural selection in the struggle for life could surely not have been in action when organisations of the highest and lowest quality came into existence, at best, at one and the same time.

I come now to consider that branch of my subject which more directly connects the Darwinian theory with ethnology, that which makes the races of man to proceed from the family of apes. In bodily form, at least, there is a seeming approximation, but on examination it will soon be seen that the discrepancy is far more striking than the similitude. The most highly endowed ape, in fact, far less resembles man than a hog does an elephant, or a badger a bear. The disparities are, indeed, unspeakable in their extent. In all essential respects, apes are quadrupeds, and nothing better. Nature furnishes them spontaneously with food and clothing, and they continue their race in the same way as all other terrestrial mammals. A monkey can walk on his hind legs, but his pace is shambling; it costs him an effort to walk, and he has to balance himself to preserve his equilibrium. He stands on his hind legs more easily than a dog, but not better than a bear, and his more natural movement is on all-fours like that of any ordinary quadruped, and his most natural is climbing.

All the species of apes are exclusively frugivorous, but all the races of man are omnivorous. The abode of man is the stable earth, but of apes the forest. Were there no trees there would be no apes, and, in fact, in treeless regions they have no existence. Man, of one race or another, is the denizen of every climate; spread, with trifling exceptions, over every part of the firm earth. The family of apes, on the contrary, is restricted to tropical and subtropical regions, provided they be wooded. Yet not even in all such are they found, for there are extensive well-wooded tropical regions wholly destitute of them. Thus they do not exist in the Molucca Islands, in the great island of New Guinea, in any of the many islands of the North and South Pacific Ocean, or in the tropical part of the continent of Australia. Man, then, is the denizen of the whole habitable earth, and apes, his imagined progenitors, only of a small and peculiar portion of it. It should follow from this

distribution of the two parties that apes could not have been the progenitors of men, unless apes possessed the power of overcoming geographical obstacles insurmountable by man himself while yet a savage or a barbarian.

Apes vary in size from the magnitude of a marmot to that of a wild boar, but no such disparity exists in the races of man. The greater number of apes have long tails, and the American monkeys prehensile tails, but in all the races of man the termination of the spine is concealed in flesh. The monkeys of Africa, Asia, and the Asiatic Islands have the same number of teeth with man, but the monkeys of America have four additional ones.

Throughout all the various races of man the union of the sexes is followed by a fertile hybrid offspring, but between the different species of apes no union of the sexes takes place at all, even when the species seem most closely allied; so that in this respect they differ more from man than several species of the other lower animals, such as all dogs and some oxen.

The brain of the apes has been deemed by anatomists to make a nearer approach in form and structure to that of man than the brain of any other animal, but the intellectual fruits are not commensurate with this physical resemblance. The ape is brisk, but fitful, artful, and prone to mischief. In sober sagacity he is inferior to the dog and to the elephant; indeed, even to the hog. Monkeys may be tamed, but cannot, even in countries of which they are denizens, be domesticated; so that in this respect they rank, not only below all our domestic cattle, but even below our ordinary poultry. In this last regard it may be added that they bear no likeness to man, who even as a savage is a domesticated creature.

The apes are incapable of storing knowledge, and, like ordinary brutes, are one and the same from generation to generation. Is there not in the brain of man and of the lower animals something too subtle for anatomy ever to reach? No one alleges that there is any difference in the material properties of the brain of the sagacious and faithful dog and that of the gluttonous and untameable wolf, or in that of the cunning and untameable fox. Anatomy detects no difference in the brains of the docile horse, the wilful ass, or of the zebra incapable of domestication. The brain of a man is not by anatomy distinguishable from that of a woman, although the intellect of man be usually superior to that of woman, while many women far excel the generality of men. No anatomist, I presume, would assert that the brain of Newton could be distinguished by its form or structure from that of an illiterate peasant, or even

from the brain of a savage that could count no higher than the fingers of one of his own hands.

The theory of development by profitable variation makes the family of apes the nearest approach to the variation which ends in man: but it is silent about the gradations in the apes themselves; and there are above a hundred distinct species of them, not one of which is common to Africa, America, Asia, and the Asiatic islands.

The nearest approach to man, however, is asserted to be found in what are called the anthropoid or man-like monkeys; chiefly, it may be presumed, because like man they have no tails, for it would be difficult to discover any better reason. The anthropoid apes are four in number, and, in the order of precedence given to them, they are as follows: the gibbon, the chimpanzee, the orang-utan, and the gorilla. But even these are not man-like in the order here set down; for the two first, which in external form bear the least resemblance to man, are by far the most intelligent; while the two last, which make the nearest approach to him, are by far the stupidest; the gorilla, represented to stand nearest to man, being surpassed in intelligence by many a little monkey with a tail a yard long.

The chimpanzee and gorilla are African apes; so that Africa had two progenitors, a clever and a stupid one. The gibbon is an ape of continental Asia; so that throughout the whole of that great continent, and for its manifold races of man, there was but one progenitor. The Asiatic islands had two,—the gibbon and the orang-utan; or rather three, for it is ascertained that there are two distinct species of the latter. America has no anthropoid monkey at all; so that, to people America and its islands with human beings, the gibbon of India, or the orang-utan of Borneo, had to cross the Atlantic,—a feat which their savage and barbarous descendants, after attaining the human form by natural selection, were never able to achieve. The people of Europe, who had no monkeys in their own country, must trace their simian pedigree to the nearest country; and thus Greeks, Romans, Germans, Frenchmen, and Englishmen would have the same immediate progenitors as Egyptians, Berbers, Negroes, Abyssinians, and Hottentots, and they have to choose between a chimpanzee and a gorilla. Australia, like Europe, had no ape at all; but as its native inhabitants are among the lowest types of mankind, it ought surely to have had an inferior anthropoid to itself, to show how near a man might be to a monkey.

A skilful anatomist and eloquent teacher, embracing the theory of gradual mutation, has published a work to show the connexion which he considers to exist between man and the

ape.* In this work pictured figures of the skeletons of man and the four anthropoid apes are given, in which the apes as well as the man are represented as standing erect. It would have been more consonant with nature if the apes had been represented as going on all-fours; and, better still, had they been shown in the act of climbing a tree, or hanging from one of its branches. While Professor Huxley, as a supporter of the Darwinian theory, considers the anthropoid apes—the gorilla at the head of them—as the nearest approach to man, he fully admits that a wide gulf separates them; and with the candour of a genuine philosopher, he thus expresses himself on the subject: “Let me take this opportunity of directly asserting that the differences are great and significant,—that every bone of the gorilla bears marks by which it may be distinguished from the corresponding bones of a man, and that in the present creation, at any rate, no intermediate link bridges over the gap between man and the troglodytes.” “No one”, he adds, “is more convinced than I am of the vastness of the gulf between civilised man and the brutes, or is more certain that, whether from them or not, he is assuredly not of them.”

But is not the breadth of the gulf which separates man from monkey sufficiently indicated by the geological record? In the tertiary strata, and indiscriminately mixed with the remains of the ordinary mammalia, graminivorous and carnivorous, are found the remains of several species of ape, but not a vestige of man or his works. Man and the works of his hands appear, for the first time in the quaternary formation, the alluvial gravel and ossiferous caves, but here no ape has yet been found; while all the molluscs of this most recent portion of the earth's crust consist of species still existing. What is to be inferred from all this, surely, is that man was the most recent creation; and that monkeys were not a cotemporary creation with him, but of one coeval with that of the lower mammalia.

But let us for a moment indulge in the belief that the Darwinian theory has, through the creation of a being or beings superior to apes, but inferior to man, bridged over the chasm which now separates them, and that the masterpiece of organic existence is at length reached; still man is but a generic term, for he is divided into many races, or, speaking more correctly, into many species, greatly differing among themselves in bodily and mental attributes. It was incumbent, therefore, on the theory, to show that such differences were brought about by

* *The Evidences as to Man's Place in Nature.* By Thomas Henry Huxley, F.R.S., 1863.

“natural selection in the struggle for life”, and to indicate with which of the many races the mutation began ; or, in other words, which of the races it is that stands nearest to the apes. It makes no attempt of the kind ; it simply makes a man out of a monkey and of something else as yet unknown, leaving mankind an indiscriminate hodge-podge ; and so, therefore, the Darwinian theory, except in so far as it provokes inquiry, is of no value to ethnology or the natural history of man. The theory itself will vanish, but the invaluable assemblage of facts and reasonings, adduced in illustration of it, will be a lasting record of the knowledge, skill, and ingenuity of its accomplished author.

IV.—*Notice respecting Human Remains discovered in the Cabeço da Arruda, by F. A. Pereira da Costa; and in the Grutas da Césarêda, by J. F. N. Delgado, accompanied with various Remains of Human Art.* By GEO. BUSK, F.R.S.

[Read Feb. 25th, 1868.]

THE collection of casts of human and other bones, and of flint and stone implements of various kinds, now before the meeting, was forwarded, a short time since, from Portugal by M. da Costa, to Sir Charles Lyell, and by him placed in my hands for exhibition before the Ethnological Society. Mr. John Evans having kindly undertaken to give a notice respecting the works of art, my own observations will be confined solely to a brief description of the human remains, and of the conditions under which they were found. As an account of the same objects was, I understand, given by M. Mortillet to the Anthropological Congress in Paris, it will be the less requisite on the present occasion to enter at any great length into the subject, and this is rendered even less necessary, since M. da Costa,* and M. Delgado† have each published an elaborate report of their researches, under the auspices of the Geological Commission of Portugal.

I. HUMAN REMAINS FROM THE CABEÇO DA ARRUDA.

The Cabeço or Hill of Arruda is a small elevation, situated on the right bank of the Valley of Ribeira de Muge. Its length is about ninety-five metres, and breadth forty, whilst its height is about five metres above the sandy plain upon which it is placed, and ten or twelve above the level of a neighbouring marsh. The sandy plain upon which the heap is situated belongs to the newer pliocene period. Its structure, as shown in a section, appears to be that of a "kitchen midden," or "shell mound"; and there can be no doubt that the elevation is of

* *Da existencia do Homem em epochas remotas no Valle do Tejo. I. Opusc. Noticia sobre os esqueletos humanos descobertos no Cabeço da Arruda.* Lisbon, 1865.

† *Da existencia do Homem no nosso Solo em tempos mui remotos, provada pelo Estudo das Cavernas. I. Opusc. Noticia acerca das Grutas da Césarêda.* Lisbon, 1867.

that nature; and from some of the appearances described, there is reason to believe that the superficial layers on the south-east part are of a more recent date than the rest. The human bones were almost all found in a lower bed of broken shells, imbedded in a sort of matrix composed of them, and immediately beneath a layer containing pebbles mixed with the broken mammalian bones. The skeletons were all found within a small compass, and lay extended either on the back or side, with the heads towards the north-west, and the face looking towards the east. The bones collected on this site must have belonged to at least forty-five or more individuals of all ages. Many of the bones were broken, and the crania especially were so crushed as to lead to the supposition either that their possessors had succumbed to some destructive accident, or, as is more probable, that they had been fractured by the pressure of the superincumbent deposits. M. da Costa, in his interesting "Memoir," gives several reasons in support of the latter supposition, which undoubtedly appears to be by far the more probable of the two.

The collection of casts of human bones from this site includes fragments of the lower jaw, a frontal and an occipital bone, and broken fragments which, when put together, make up a considerable part of a cranium. Although numerous other bones of the skeletons occurred, M. da Costa offers no remarks concerning them. This is much to be regretted, since it would have been interesting to ascertain whether, for instance, the *tibia* and *femur* presented the curious characters shown by many of those bones from the Genista Cave in Gibraltar, and which have since been remarked in priscan bones from several other localities, and belonging in all probability to the same period. I allude to the peculiar compression of the *tibia* and the great development of the *linea aspera* of the *femur*, which caused Dr. Falconer and myself to apply to bones so fashioned the terms "platycnemic" and "carinate."

M. da Costa enters into minute details respecting the jaws and teeth, and the various bones of the cranium, but neither, from what he says, nor from inspection of the objects themselves as now exhibited to the meeting, does there appear to be much of importance to remark upon in them. As is almost universal in ancient crania, as well as in those of existing savage races, the teeth are for the most part worn flat, and rarely exhibit any trace of caries or decay.

With respect to form and dimensions of the cranium as a whole, in the absence of any specimen sufficiently entire to afford exact measurements, M. da Costa has been compelled to content himself with merely approximate measures. He insti-

states a comparison between one of the Cabeço da Arruda skulls and the famous Engis cranium, with the following results :—

	Cabeço d'Arruda.	Engis.
	Inches.	Inches.
Horizontal circumference - - -	19·2	20·7
Longitudinal arc (to occipital spine)	12·2	13·3
Sagittal suture - - - - -	5·3	5·12
Length - - - - -	6·3	7·4
Breadth - - - - -	5·15	5·15

Which would seem to show that the cranium he measured was at any rate brachycephalic (817).

II.—The other human remains of which casts are before the meeting were procured from certain caverns on the calcareous plateau of Césaréda, and chiefly, as it would seem from M. Delgado's account, from a cavern termed "Casa da Moura," or "Moor's House." The cavern in question is formed in jurassic limestone, and is situated at a short distance from the crest of the escarpment, which forms the northern boundary of the plateau, about a mile south-east of the village of Serra-de-El-Rei. The cavern is entered by a vertical opening or pit, three or four yards in diameter. The descent is somewhat difficult, and is only effected by careful climbing down the well-like opening; but nevertheless, from certain indications, it would seem that this entrance had been, at one time, in considerable use. The chamber into which the entrance opens communicates with a second of large size by a narrow passage. The stalagmitic floor of the first chamber is entirely covered with extraneous materials, the deposit decreasing in thickness in proportion to the distance from the entrance, being in its thickest part about four and in the thinnest about two metres in depth. The stalagmitic floor of the inner chamber is wholly uncovered. Two distinct layers may be discovered in the deposit on the floor of the first chamber—a superficial and a deep—the former of loose consistence, composed of dark-coloured mould, intermixed with fragments of rock; and the lower, of more compact nature and of a reddish colour, forming a sort of calcareous breccia. In most parts the line of distinction between these two layers is quite clear; but in some they appeared as it were to run into each other. The layers were distinct not only in their mineralogical characters, but still more so by their organic contents. The upper dark-coloured, incoherent deposit abounded in human bones and works of art; whilst the lower was extremely rich in the remains of animals, chiefly of the rabbit, and of small birds, though here and there

affording a few flint and other implements, together with scanty human bones ; but these latter relics were, in all cases, limited to the uppermost stratum. Amongst the human remains so found, M. Delgado notices a human canine tooth, worn in a very peculiar and singular manner ; but this he does not describe. The mammalian remains in the lower stratum are referred to the genera *Erinaceus*, *Canis*, *Felis*, *Hypudæus*, *Lepus*, and *Cervus*, but by only a single species of each, excepting *Canis* and *Felis*. Of the former, M. Delgado thinks he has discerned bones belonging to the wolf and to another species with rather larger bones than the fox ; and of the latter, four or five species or forms occurred,—one apparently the size of the lynx, or *F. serval*, and others little larger than *F. catus*. As usual in caverns, the *Hypudæus* appears to be the common water-rat (*Arvicola amphibius*), whilst the *Lepus* is identified with the existing rabbit. The genus *Cervus* appears to be represented only by one or two molars, probably belonging to the milk series of a species about the size, and perhaps identical, as I should imagine, with *C. dama*. In the upper stratum, remains were met with of *Vespertilio*, *Canis lupus*, *C. vulpes*, and a third undetermined species of *Canis* *Myoxus* (sp. ?), *Mus musculus*, *Lepus cuniculus*, *Equus*, *Cervus*, and *Ovis* or *Capra*.

On commencing the investigation of the constituents of the upper stratum of the deposit in the first chamber, numerous remains of the human skeleton, and of works of human art, were at once met with. The latter, consisting of polished stone implements of various kinds, of flint knives and arrowheads, and other implements of flint, bone, and stag's horn, together with numerous fragments of coarse black pottery, all confusedly mixed with the bones and teeth of animals, rolled fragments of stalactite, and other pebbles, flint and quartzite chips, etc., etc., and curious tablets of schist with designs upon them, which have been noticed on the present occasion by Mr. Evans, and which M. Delgado thinks may have been worn as amulets. There were also found numerous particles of charcoal, many of which still remained adherent to the portions of rock and pebbles, which had, in all probability, formed a hearth.

With the exception of a few articles of modern origin, found on or quite near the surface, the entire collection appears to belong to one and the same remote period.

With respect to the human bones, the first thing that excited surprise was their fragmentary state, and the scattered condition in which the fragments were found. Another circumstance, noted by M. Delgado, was the relative preponderance of certain portions of the skeleton. As regards the head,

for instance, the upper jaw was rarely met with; whilst, on the contrary, the lower was represented by numerous examples, and above all, teeth were found in extraordinary abundance. Of the long bones, which were incomparably more numerous than the ribs, vertebræ, or any of the spongy bones, the greater number wanted the articular extremities; and besides this, most of them were fractured perpendicularly to their axis, and some split longitudinally, whilst others appeared to have been gnawed, or to have been marked by some cutting instrument. The general aspect of the jaws showed that the greater part of them must have belonged to young persons, and some even to infants of tender age.

The only entire cranium discovered in the Casa-da-Moura is represented in the cast now on the table. It was found at the end of a deep trench made in the floor of the cave, and was lying immediately above the stalagmite, and no other bones of the skeleton, that could with certainty be referred to it, were found within a moderate distance. M. Delgado is unable to account for this isolated position of the skull, except on the supposition that the place had been disturbed. No implements of any kind were discovered in close contiguity with the cranium; but at no great distance, and at the same level, polished stone axes of the celt-shaped type, flint knives, worked portions of deer's-horn, one of the engraved tablets, a bronze arrowhead (the only metallic relic met with), and other things, were found. M. Delgado enters at considerable length into the question of the relative age of this cranium as compared with the other human remains in the cavern; and on the whole thinks himself justified in concluding that, in all probability, it belonged to the most ancient period. He then goes on to describe the characteristics of the *cranium*, and points out that it differs very widely from those or rather from that found in the Cabeço-da-Arruda, and which, as has been stated, was remarkably *brachycephalic*, in its belonging to the *mesocephalic*, type, or even, as he observes, to the truly *dolichocephalic*, to which I should certainly refer it, seeing that its cephalic index is 764.

The following are the principal dimensions, in inches and tenths, of the cranium, as given by M. Delgado, and which correspond with those of the cast:—Length, 6·7; breadth, 5·3; height, 5·5; greatest frontal breadth, 4·5; circumference, 19·8; longitudinal arc, 14·7; longitudinal frontal arc, 5·1; longitudinal parietal arc, 5·2; longitudinal occipital arc, 4·4.

A lower jaw, which appears to have belonged to the cranium, presents, according to M. Delgado, characters in which it ap-

proaches the famed Abbeville jaw; but I must say, that I am unable myself to perceive any marked resemblance between the two.

M. Delgado compares this cranium, which is most probably that of a female, with one described by M. Vogt, and found by Messrs. Rames, Garrigou, and Filhol, in the cave of Lombrive, in the south of France, and which is regarded by M. Broca as belonging to the Basque type. In this opinion I am myself strongly inclined to concur. I have seen several Basque skulls in Paris, and had an opportunity whilst in Madrid of examining a beautifully perfect cranium, which had been discovered in some ancient copper-mine workings in the Asturias, associated with hammers made of deer's-horn, and, if I remember correctly, stone implements. This cranium, which is of a beautiful green colour, presents very much the same proportions and contours as the cast now before us, and very exactly resembles the existing Basque type, as described by M. Broca. And it has been of especial interest to me to find that it also accords with several crania procured by Captain Brome, in a cave (not the Genista cavern), on Windmill Hill, Gibraltar, which were associated with numerous stone and bone implements, resembling in character those found in the Portuguese caverns and shell-mounds. The discovery of the same type of cranium, with the same associations, in another part of the Peninsula, lends additional strength to the supposition I have long seen reason to entertain, that traces of one and the same priscan type of man may be discerned, or will be discovered, throughout the length and breadth of the Iberian peninsula. And this view is quite in accordance with the opinion expressed by M. Broca, "that the ancestors of the Basques will be found neither among the Celts nor the rest of the Indo-European nations, but that our investigations respecting them must be directed towards Northern Africa."*

M. Delgado is inclined to the opinion that the conditions in which the human remains occur in the caverns of Césaréda, indicate the existence of cannibalism at that period in Portugal, and he adduces many ingenious arguments in favour of such a supposition. My own opinion, however, coincides with that of M. da Costa, that the evidence to that effect is by no means conclusive.

In conclusion, I would call attention to the extraordinary resemblance between the condition and associations of the human remains in the Casa-da-Moura, and those under which they occurred in the Genista-Cave in Gibraltar.

* *Lectures on Man.* By Dr. Carl Vogt. Edited by Dr. James Hunt. 1864. P. 383.

V.—*On some Antiquities of Stone and Bronze from Portugal.*
By JOHN EVANS, Esq., F.R.S., F.S.A., F.G.S.

[Read Feb. 25th, 1868.]

I HAVE been requested to make a few remarks on the stone and bronze objects from Portugal, the casts of which have been sent to Sir Charles Lyell, in company with those of the human bones of which an account has been given you by Mr. Busk; and as it may be of interest to compare these implements and ornaments with those of other countries, I have great pleasure in complying with the request, although since writing this paper I find that similar casts were exhibited last year at the Prehistoric Congress at Paris, and were then described and commented upon by M. de Mortillet, whose remarks, however, I have not yet seen.

As there is but a single metallic instrument represented in this collection, I shall proceed to describe it first. It is a socketed celt of bronze, six inches and a half long, two inches and a quarter wide at the cutting edge, and, with the mouth of the socket nearly one inch and a half square. There is, as usual, a projecting lip round the edge of the socket, below which is a second parallel rib; it is otherwise unornamented. In general contour it much resembles the square socketed celts so commonly found in France, and occasionally occurring in this country, of which I exhibit specimens from Alfriston, Sussex; and from the Côtes du Nord, France. There is, however, this remarkable peculiarity, that instead of having only one loop at the side, it has two, exactly opposite to each other, on the two sides of the instrument. Such a form is not given, as occurring in France, in the "Projet de Classification des haches en bronze", in the *Revue Archéologique* for 1866; neither is it given by Lindenschmidt, Worsaae, or Wilde. In a celt-mould, formed of stone, and found in Anglesey, engraved in the *Archæological Journal*, vol. iii, p. 257, there is, however, a loop on either side; and the same is the case with another mould found at Chidbury Hill, near Everly, Wilts, engraved in the *Barrow-diggers*, pl. v, p. 78, and which is in the possession of the Rev. E. Duke, of Lake, near Salisbury. In the British Museum there is also a bronze socketed celt with a loop at each side, which was found in a Tartar hut at the Salt Lakes, fifteen miles north-west of Kertch, near the Sea of Azof; it is engraved in the *Arch. Journ.*, vol. xiv, p. 91.

Celts of the palstave form, with a loop on either side, are likewise of extremely rare occurrence. A specimen found in Ireland is engraved in the *Arch. Journ.*, vol. ix, p. 194, and in Wilde's *Catalogue*, p. 382. The form would appear to be more common in Spain, as one in the British Museum is said to have been one of eighteen or twenty discovered in ancient workings for coal, "supposed to have been known to the Romans", in Andalusia. When found, one of them is said to have been attached to a wooden handle by means of thongs interlaced, and held by notches in the wood. Two long narrow palstaves of this class, from Spain,* were to be seen in the late Paris Exhibition, but none from Portugal. The original of the cast now before us was found at Alemquer, and is in the collection of the Society of Portuguese Architects. The existence of the two loops would make it appear that the instrument was mounted as an adze rather than as an axe.

The remaining casts are all taken from originals in stone. Among them are four, the place of finding of which is unknown, but which are preserved in the public library at Evora. Three of these are celts, or hatchets, and one a gouge. Two of the celts are very large and heavy, eleven inches and a half and ten inches and a half in length, of a broad oval section, the diameters being three inches and a quarter and two inches and a quarter in the larger, and three inches and two inches and a half in the smaller specimen. Both are obtusely pointed at the butt end, and also taper towards the rounded cutting edge, which, in the longer hatchet, is very narrow and sharply curved. The sides of this instrument are also slightly unsymmetrical. I am not aware of the nature of the stone from which they are made, but it is probably one of the metamorphic rocks. These large club-shaped celts are of very rare occurrence. The nearest approach to the form that I possess, is a French specimen in flint, from Chateaudun, Eure et Loire; but this is slightly flattened at the sides, instead of presenting a regular oval section. The third of these instruments is of a totally different form, six inches and a half long, rather more than one inch and a half wide, and three-quarters of an inch thick. It is unsymmetrical in form, one side being straight and flat, and the other curved and rounded. It is brought to a sharp rounded edge at each end, but is narrower at one end than at the other. The material is fibrolite; and the flat side appears to have been produced by sawing, so that probably a flat oval pebble was sawn in two longitudinally, so as to produce two of these instruments. Such marks of sawing are by

* Mortillet, *Matériaux*, vol. iii, p. 288.

no means uncommon on the fibrolite hatchets from Auvergne and central France, and on those of nephrite from the Swiss lakes, and of jade, from New Zealand. In the collection of M. Aymard, at Le Puy, is a fibrolite hatchet, of the same form as this, but shorter and broader. By some of the Swiss antiquaries it has been supposed that the sawing was effected by means of flint flakes. I have, however, never seen any flakes with the surface ground away in such a manner as would have been the case had they been used for this purpose; and am by no means sure but that hard wood or bone, in which sand or emery would become imbedded, might not be a more efficient agent. The method employed by the more modern stoneworkers of New Zealand would throw light on this subject. It need hardly be said that these hatchets, with a cutting edge at each end, are of rare occurrence, though they occur occasionally in the British Isles.

The Portuguese gouge is eight inches long, of an oval but almost circular section, the two diameters being, at the largest part, two inches and one-eighth, and one inch and seven-eighths. Like the large colts, it tapers towards the butt end, but it has a decidedly gouge-shaped edge, about two inches in width. The hollowed part extends a comparatively short distance along the face, as is the case with some of the Danish gouges of flint, which are, however, much thinner, and come to a blunted edge at the sides, instead of being oval in section. I have a cast of a smaller but similar implement of chlorite, found near Djelfa, Algiers. It is, however, broken at the edge. The next series of objects which I have to describe are seven hatchets, reported to have been found in a dolmen at Alcougulo. The material from which they are formed is an amphibolitic green schist; but the exact circumstances of the discovery are not described. The most characteristic of these implements is a short thick hatchet, of nearly square section, four inches and three-quarters in length, two inches wide, and two inches thick. The two sides are flat, and the two faces ground away symmetrically, from about the middle of the hatchet, so that the two convex surfaces meet, and produce a curved cutting edge. The butt end is rounded, and appears to have been artificially roughened, so as to give the socket, or handle, in which it was inserted, a better grip, in the same manner as is so frequently seen on the hatchets from the Swiss lake dwellings. Another hatchet, about six inches long, one inch and three-quarters wide, and two inches thick, is of much the same general form, but not so neatly finished. A third, six inches long, one inch and five-eighths wide, and one inch and a half thick, is flat on one face, except near the edge,

from the natural cleavage of the stone, and strongly curved on the other, the curved face being polished at the butt end as well as at the edge. This implement bears some resemblance to the fourth, which appears to be an adze rather than a hatchet. It is six inches long, one inch and a half wide at the cutting end, and pointed at the other, the sides being flat, and converging towards the pointed end. The blade is three-quarters of an inch thick, and slightly curved longitudinally; the curvature of both faces being the result of the cleavage of the stone, as may be seen from the concave face, which is left unground, except at the edge and point. The three other hatchets are flat, and comparatively thin, from four inches and a quarter to five inches in length, and from one inch and three-quarters to two inches wide at the cutting edge, and from five-eighths to seven-eighths of an inch thick. The sides of all are rounded, and in one instance curved, so that the hatchet comes to a point at the butt end. The sides of the other two are nearly straight, but converge to the butt end, which is rounded. The cutting edges of these two are curved, and central of the blade; that of the third is nearly straight, slightly oblique, and more like the edge of a chisel than of an axe. As far as form is concerned, there is little to distinguish these three from the stone hatchets of other European countries made from schistose rocks. The thick short form first described seems, however, almost peculiar to Portugal and Spain, where, amongst other places, it has occurred in the Gibraltar caves. In general design, some of the Danish hatchets of flint much resemble the Portuguese form; but these latter are, if I may use the expression, much more dumpy. The form, however, is no doubt, to a very great degree, dependent upon and modified by the material used, as some of the specimens from the Swiss Lakes, made from the morphitic rocks, are almost as thick in proportion to their length as these from Portugal.

There is another hatchet with an oblique cutting edge, found near a dolmen at Castello de Vide, Alentejo. It is four inches and a half long, two inches and a half wide, and one inch and a quarter thick, the sides converging, straight, and nearly flat, but rounded at the angles. The type is common to most western countries.

Another implement, also from a dolmen at Alcobulo, is a sort of muller, probably used for crushing grain. It seems to have been formed of a part of a broken celt, of irregularly oval section, two inches and a quarter and two inches and a half in diameter, and three inches and a half long. Each end is worn away to a slightly irregular convex face, apparently by a rolling action of the hand pressing the stone on a nearly plane

surface. Such rubbing-stones, or mullers, are of common occurrence, in all parts of the world and of all ages. I happen to have one from Thorslunde, in Denmark, which, from its extreme similarity to this from Portugal, I have brought here; but closely analogous implements might be produced from Yorkshire and other parts of England.

I now come to the objects in stone discovered in the cavern called Casa da Moura; in which the human remains, described by Mr. Busk, were found. The deposits in this cave were of two ages, both containing remains of man and his works, but the lower apparently of far higher antiquity than the upper. Of the objects discovered in the lower deposit, I have not seen any casts; but the most characteristic of them are figured in M. Delgado's description of the cave. They consist of several flakes of flint, and a fragment of a sort of awl, or possibly lancehead, of bone, some quartz pebbles, possibly used as hammer-stones, and a small slab of fine sandstone.

In the upper deposit were found, mixed with human remains, hatchets of polished stone, of the type called Celtic; knives, arrowheads, and other instruments of flint, bone, and stag's-horn; many fragments of rude pottery, black, but with white grains of sand or calcareous spar; together with bones and teeth of animals, fragments of stalactite, quartz, and other pebbles; flint and limestone flakes, small fragments of stone hatchets, and flat pieces of schist with designs upon them, which may have served as amulets. Besides all this, there were fragments of charcoal, numerous shells of *Helix nemoralis* and *H. aspersa*, and some valves of *Pectunculus*, much worn, some of which were pierced near the summit for suspension. A letter of M. Delgado's makes mention also of a lancehead of bronze.

The only objects of which there are casts are a sort of muller or pestle, about six inches long, subquadrate in section, the sides tapering from about one inch and three-quarters to one inch and a half; and an oval pebble, with a groove on one side, labelled "Hammer, similar to those of America." The pestle is probably formed from a celt which had lost its edge, and was then used for pounding. The pebble may or may not have been intended for a hammer; but the groove upon it occurs only on one face, and if the stone is of the proper texture, may have been used for grinding or polishing cylindrical instruments of bone, like the grooved stones found in some of our Wiltshire barrows; as for instance, that of Upton Lovell.* There are traces of a small notch, about half an inch on either side

* Hoare's *South Wilts*, pl. vi, *Archæologia*, vol. xv, p. 125.
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of the main groove, and parallel with it. There is also an oblique notch at one end of the stone, which seems hardly in accordance with the view of its being a hammer; but without farther details, or a sight of the original, it is impossible to speak with confidence.

None of the flat amulets mentioned by M. Delgado, as having been found in the Casa da Moura, are represented by casts, but no doubt they were similar to others of which casts are here. Two of these are labelled as having been found with interments at Vianna, Alemtejo, and the third in a sepulchral cave at Monte Real, near Leizia. They are all of schist, not more than half-an-inch thick, ground smooth on both faces and on the edges, with an ornamental pattern on one face only, and with a single hole at one end for suspension. The first is five inches long, three inches and a quarter wide in the middle, the sides curved, the bottom ground to a bevelled edge towards the plain face. The ornamental pattern is scratched upon the stone, and consists of six rows of nearly equilateral triangles, cross-hatched, and with their apices upwards when the stone was suspended. In the upper rows, some of the triangles are omitted so as to leave a plain triangular space, with its apex downwards, and the hole for suspension in the centre of the base. The lines, between which the triangles are described, are closer together towards the upper part of the stone, so that the triangles are smaller, and the bases of one row do not correspond with the spaces between the points of the triangles of the row below; but in some places the triangles alternate with sufficient regularity. The bottom row of triangles seems to have been partly ground away in forming the bevelled edge before mentioned: so that it would seem that this specimen, at all events, was used for some other purpose than as a mere ornament or amulet.

The next is of a different pattern. It is six inches and three-quarters long, four inches and a quarter wide at bottom, and three inches at top, the sides straight, the top and bottom slightly curved. The hole for suspension is, like that in the first-described plaque, in the base of an unornamented triangular compartment, with the apex downwards.

Parallel with the sides of the triangle are a series of lines about a quarter of an inch apart, the spaces between which are alternately left plain, and cross-hatched; so that, to speak heraldically, there are four bendlets dexter and sinister on each side of the central pile. At the base, these are bounded by the upper of a series of nine horizontal lines. The space between the two topmost of them is divided, by zigzag lines, into triangles, those with the base downwards being cross-

hatched. The rest of the surface is divided by a series of nearly vertical lines crossing the horizontal into oblong compartments, alternately cross-hatched and plain, so as to produce a chequered pattern.

The pattern on the third of these pendants is again of a different character, but much more indistinct. The stone is five inches and a half long, three inches and a quarter wide at bottom, and two inches and three quarters at top, both sides and ends nearly straight. The hole is again placed in a plain, triangular space, a portion of the apex of which is cut off by a horizontal line. In the two spaces beyond the sides of the triangle are parallel lines, inclined outwards in either case. The space below the horizontal line is divided by two vertical lines into three compartments, in each of which is a series of parallel chevron-shaped lines, the point downwards forming what is known as a herringbone pattern, such as is often seen in Norman masonry. This specimen was found in a sepulchral cave at Monte Real, near Leizia.* I am not aware of similarly ornamented stone pendants having been found in other countries than in Portugal, and, as is the case with so many other antiquities in stone, it is difficult to say for what exact purpose they were intended. It would appear however, from the decorations being only on one face and from their being adapted for suspension, that they were ornaments or amulets intended to be worn like *bullæ* on the breast, though the sharpened edge of the specimen first described seems to imply that they were also occasionally made to subserve some useful purpose.

The character of the ornamentation is of that simple kind which we find to prevail among savage tribes in various parts of the globe, being defined by straight and not by curved lines. It may be compared with that on a hoe made of a stag's antler, engraved in *Nilsson's Stone Age*, pl. xv, No. 257, but it is perhaps more nearly allied to the ornamentation which occasionally is found on the faces of bronze celts. That these pendants, however, can hardly be referred to the bronze age would seem to be proved by the fact that two of them of micaceous slate, and closely resembling the first I have here described, were found associated with three stone celts, formed of schist, one of them

* I ought, perhaps, to except an object discovered by Colonel Dundas in excavating an underground chamber at the Tappoch, Torwood, Stirlingshire, in company with guerns, stone-balls, oval stones with cup-shaped depressions on one face, whetstones, spindle-whorls, an iron axe-head, etc. It is thus described in the *Proceedings of the Society of Antiquaries of Scotland*, vol. vi, p. 112:—"Flat, pear-shaped piece of shale, having a hole at the narrow end; greatest length two inches and a half, and breadth two inches. One side is covered with scratches of a Vandyked pattern."

of the adze form, and the other two, square and oval in section, between Beja and Vendas Novas, also in the province of Alemtejo, in Portugal. They are now preserved in the British Museum. It is of course impossible with such limited premises to speculate on the character and affinities of the race by whom these stone implements were used, but it is at all events worth while to call attention to the peculiarities which they seem to present, on which perhaps some future observers may be able to throw more light.

VI. — *On a Hairy Family in Burmah.* By the Rev.
W. HOUGHTON.

[Read February 25th, 1868.]

It is a fact of common observation, that considerable difference occurs in individuals in respect of the hair which covers parts of the body. Some youths of eighteen years of age, for instance, have abundant whiskers; others of that age, only a slight down; others, no hair at all on the face. It is the same with men of mature age. Luxuriant hair, whiskers, and beard, grow spontaneously in some; others are beardless and whiskerless. We sometimes see great difference in this respect amongst members of the same family. This difference was early noted, as appears from the biblical story of Esau and Jacob; the former being described, even at his birth, as being "all over like a hairy garment." And if we make every allowance for exaggeration, in accordance with Oriental hyperbole in the narrative, there is enough left to show us that the difference in respect of a hairy covering amongst members of the same family was noted in very early times. As far as I have been able to ascertain, very little occurs on this point in the writings of the ancient Greeks and Romans. Pliny (*Nat. Hist.*, vii, 2) speaks of an Indian race, known by the name of Choramandæ, which dwell in woods, and have no proper voice; "these people," he adds, "screech in a horrible manner; their bodies are covered with hair; they have sea-green eyes, and teeth like dogs." The same authority speaks of another Indian nation called the Astomi,—the mouthless people,—whose bodies are rough, and covered with hair. There can be no doubt—subtracting the fabulous element from the account—that the descriptions are taken from incorrect reports of some of the man-like apes. The same may, I think, be said of the accounts of the so-called hairy people mentioned by Maundeville, Rigaseta, Peter Martyr, and others, quoted by Aldrovandi. Man-like apes are probably at the bottom of most of the stories. I must mention, however, one exception. Aldrovandi speaks of wild men (wild men were popularly supposed to be hairy) inhabiting Ireland many years ago. His words are:—"Item in Hybernia insula Anglorum regi subjecta infiniti fere homines sylvestres sunt." What kind of men the old naturalist alludes to it is impossible to say; I hazard the conjecture that

they were the primitive stock whence the Fenians have descended.

Aldrovandi has figured some individuals of a hairy family which there was no reason to doubt were historical personages. "*Hoc sylvestre genus hominum Bononiæ primum visum est.*" It appears that this hairy family, which consisted of a father, ~~forty~~ years old, a son twenty, and two daughters, aged respectively eight and twelve years, was brought over by a certain marchioness from the Canary islands. The appearance of one of the girls is thus described:—"The face and forehead were, with the exception of the nostrils and lips, covered with hair; the hair of the forehead was longer and rougher than that which covered the cheeks; the rest of the body, and especially the back, was rough, and covered with yellow hair as far as the loins; the throat, breast, hands, and arms were destitute of hair; the other parts of the body were rough, resembling the skin of birds before they have got their plumage." The subject which I am now to bring before your notice is that of a certain hairy Burmese family, consisting of a mother and two sons, whose photographs I hold in my hand. These shaggy individuals belong simply to one family, now living at or near Ava. They are not representatives of a race of hairy people, like the Ainos or Kurilians of Yezo and the Kurile islands, which have been described "as the most hairy race of people in the world," and which have, I believe, recently afforded a topic of discussion before the members of this society.

The photographs before me, copies of which are in your hands, were taken by a photographer of Rangoon when at Ava, about a year ago. They were put into my hands by my brother, Captain Richmond Houghton, on his return from Burmah, a short time since. My brother had never seen any of the shaggy family, though he had often met people who had seen them, and had often heard them spoken of. Of their dispositions and occupations he knew nothing. The first mention of this family occurs in a work of the learned and venerable President of this Society, who visited Ava in 1826. In his interesting *Journal of an Embassy to the Court of Ava*, he has given a description of a hairy man, whose name was Shwe-Maong, and who was the father of the woman represented by one of the photographs. Mr. Crawford has also given two figures of Shwe-Maong,—one a profile of the face, the other a full length portrait—and a figure of his daughter when a child. Mr. Crawford's account of this curious individual is as follows:—"We had heard much of a person said to be covered all over with hair, and who, it was insisted upon, more re-

sembled an ape than a human being; a description, however, which I am glad to say, was by no means realised by his appearance. Having expressed a curiosity to see this individual, the king politely sent him over to our dwelling some days ago, and Dr. Wallich and I took down on the spot the following account of himself, and his history. His name was Shwe-Maong, and he stated himself to be thirty years of age. He was a native of the district of Maiyong-gyi, a country of Lao, situated on the Saluen, or Martaban river, and three months' journey from Ava. The Saubwa, or chief of the country, presented him to the king, as a curiosity, when a child of five years of age, and he had remained in Ava ever since. His height was five feet three inches and a half, which is about the ordinary stature of the Burmese. His form was slender, if compared with the usually robust make of the Hindoo-Chinese races, and his constitution rather delicate. In his complexion there was nothing remarkable; although upon the whole he was, perhaps, rather fairer than the ordinary run of Burmese. The colour of his eyes was a dark brown, not so intense as that of the ordinary Burman. The same thing may be said of the hair of the head, which was also a little finer in texture and less copious. The whole forehead, the cheeks, the eyelids, the nose, including a portion of the inside, the chin,—in short, the whole face, with the exception of the red portion of the lips, were covered with a fine hair. On the forehead and cheeks this was about eight inches long, and on the nose and chin about four inches. In colour it was of a silvery grey; its texture was silky, lank, and straight. The posterior and interior surface of the ears, with the inside of the external ear, were completely covered with hair of the same description as that on the face, and about eight inches long; it was this chiefly which contributed to give his whole appearance at first sight an unnatural and almost inhuman aspect. He may be strictly said to have had neither eyelashes, eyebrows, nor beard, or at least they were supplanted by the same silky hair which enveloped the whole face. He stated that, when a child, the whole of this singular covering was much fairer than at present. The whole body, with the exception of the hands and feet, was covered with hair of the same texture and colour as that now described, but generally less abundant; it was most plentiful over the spine and shoulders, where it was five inches long; over the breast it was about four inches; it was most scanty on the forearms, the legs, thighs, and abdomen. We thought it not improbable that this singular integument might be periodically or occasionally shed, and inquired, but there was no ground for the surmise; it was quite permanent.

Although but thirty years of age, Shwe-Maong had in some respects the appearance of a man of fifty-five or sixty: this was owing to a singularity connected with the formation of the teeth, and the consequent falling in of the cheeks. On inspecting the mouth, it was discovered that he had in the lower jaw but five teeth,—namely, the four incisors, and the left canine; and in the upper but four, the two outer ones of which partook of the canine form. The molars, or grinders, were of course totally wanting; the gums, where they should have been, were a hard fleshy ridge, and, judging from appearances, there was no alveolar process. The few teeth he had were sound, but rather small, and he had never lost any from disease. He stated, that he did not shed his infantine teeth till he was twenty years of age, when they were succeeded in the usual manner by the present set. He also expressly asserted that he never had any molars, and that he experienced no inconvenience from the want of them.

“The features of this individual were regular and good for a Burmese. The intellectual faculties were by no means deficient; on the contrary, he was a person of very good sense, and his intelligence appeared to us to be rather above than below the ordinary Burmese standard. He gave the following account of the manner in which the hairy covering made its appearance. At his birth, his ears alone were covered with hair, about two inches long, and of a flaxen colour. At six years of age hair began to grow on the body generally, and first on the forehead. He distinctly stated that he did not attain the age of puberty till he was twenty years old.

“Shwe-Maong was married about eight years ago, or when twenty-two years of age; the king, as he stated himself, having made him a present of a wife. By this woman he has had four children, all girls; the eldest died when three years of age, and the second when eleven months old. There was nothing remarkable in their form. The mother, rather a pretty Burman woman, came to us to-day along with her third and fourth child. The eldest, about five years of age, was a striking likeness of her mother, and a pretty interesting child, without any malconformation whatever or, indeed, anything to distinguish her from an ordinary healthy child. She began to teethe at the usual period, and had all her infantine teeth complete at two years of age. The youngest child was about two years and a half old, a very stout, fine infant; she was born with hair within the anterior portion of the ear. At six months old it began to appear all over the ears, and at one year old, on different parts of the body. This hair was of a light flaxen colour, and of a fine silky texture. When two years of age, and not

until then, she got a couple of incisor teeth in each jaw, but had as yet neither canine nor molars. Shwe-Maong assured us that none of his parents or relations, and as far as he knew, none of his countrymen were marked like himself. Our draftsman made very faithful sketches of the father and youngest child, to which I refer. After making the party presents, they took their leave of us, extremely grateful for our attention. Shwe-Maong, he found, had been occasionally employed by the court as a buffoon, having been taught to imitate the antics of a monkey. For these feats, however, the poor fellow does not seem to have been very liberally rewarded; for, to subsist himself and family, he was obliged to betake himself to the trade of a basket-maker, in which he was now employed. He would have turned his monstrosity to better account in London."

About thirty years after Mr. Crawford's visit to Ava, Captain Yule was sent on a mission to the same place, and found Shwe-Maong's youngest child grown up to womanhood, and a mother of two children. The following is Captain Yule's account:*

"September 18th.—To-day we had a singular visitor at the residency. This was Maphoon, the daughter of Shwe-Maong, the '*Homo hirsutus*,' described and depicted in Crawford's narrative, where a portrait of her as a young child also appears. Not expecting such a visitor, one started and exclaimed involuntarily as there entered what at first sight seemed to be an absolute realisation in the flesh of the dog-headed Anubis. The whole of Maphoon's face was more or less covered with hair. On a part of the cheek and between the nose and mouth this was confined to a short down, but over all the rest of the face was a thick silky hair, of a brown colour, paling about the nose and chin, four or five inches long. At the alæ of the nose, under the eye, and on the cheek bone, this was very fully developed; but it was in and on the ear that it was most extraordinary. Except the extreme upper tip, no part of the ear was visible. All the rest was filled and veiled by a large mass of silky hair, growing apparently out of every part of the external organ, and hanging in a dependent lock to a length of eight or ten inches. The hair over her forehead was brushed so as to blend with the hair of the head, the latter being dressed (as usual with her countrywomen) *à la Chinoise*. It was not so thick as to conceal altogether the forehead. The nose densely covered with hair, as no animal's is that I know

* "A Narrative of the Mission sent by the Governor-General of India to the Court of Ava in 1855," p. 93-95. By Captain Henry Yule, Bengal Engineers, F.R.G.S. Smith, Elder, and Co., 1858.

of, and with long fine locks curving out and pendent, like the whisks of a fine skye terrier's coat, had a most strange appearance. The beard was pale in colour, and about four inches in length, seemingly very soft and silky. Poor Maphoon's manners were good and modest, her voice soft and feminine, and her expression mild and not unpleasing after the first instinctive repulsion was overcome. Her appearance rather suggested the idea of a pleasant-looking woman masquerading than that of any thing brutal. This discrimination, however, was very difficult to preserve in sketching her likeness, a task which devolved on me to-day in Mr. Grant's absence. On an after visit however, Mr. Grant made a portrait of her which was generally acknowledged to be most successful.*

"Her neck, bosom and arms appeared to be covered with a fine pale down, scarcely visible in some lights. She made a move as if to take off her upper clothing, but reluctantly, and we prevented it. Her husband and two boys accompanied her. The elder boy, about four or five years old, had nothing abnormal about him. The youngest who was fourteen months old and still at the breast was evidently taking after his mother. There was little hair on the head, but the child's ear was full of long silky floss, and it could boast a mustache and beard of pale silky down that would have cheered the heart of many a cornet. In fact the appearance of the child agrees almost exactly with what Mr. Crawford says of Maphoon herself as an infant. This child is thus the third in descent exhibiting this strong peculiarity, and in this third generation, as in the two preceding, the peculiarity has appeared only in one individual. Maphoon has this same dental peculiarity also that her father had, the absence of the canine teeth and grinders, the back part of the gum presenting merely a hard ridge. Still she chews paw like her neighbours. Mr. Camaretta tells some story of an Italian wishing to marry her and take her to Europe, which was not allowed. Should the great Barnum hear of her he would not be so easily thwarted. According to the Woondouk, the king offered a reward to any man who would marry her, but it was long before any one was found bold enough or avareicious enough to venture. Her father, Shwé-Maong, was murdered by robbers many years ago."

The most curious thing about this hairy family is the abnormal character of the teeth, both in the case of Shwé-Maong

* Maphoon had a strong resemblance to the full length portrait of her father in Mr. Crawford's book. The engraving of herself as a child, on the same page, is evidently a failure. It represents an old bearded man, not a hairy infant.

and Maphoon. The former had only five teeth in the lower jaw, viz., the four incisors and the left canine; in the upper only four, the two outer ones of which partook of the canine form—the molars were entirely wanting. Maphoon lacked canine teeth and grinders. It would be interesting to discover whether either of Maphoon's sons exhibit the same or any dental peculiarity. When I first read of this abnormal character of the dental apparatus I was reminded of some remarks of a celebrated living philosopher, on the correlation of hair and teeth. Mr. Darwin, in his most valuable work on the origin of species, in the section relating to correlation of growth, a very mysterious subject indeed, speaks of the relation between the hair and teeth in the naked Turkish dog, and remarks that with respect to this correlation of hair and teeth, "it can hardly be accidental, that if we pick out the two orders of mammalia which are most abnormal in their dermal covering, viz., *Cetaceæ* (whales) and *Edentata* (armadilloes, scaly anteaters, etc.) that these are likewise the most abnormal in the teeth." The Turkish or Egyptian dog is, according to Hamilton Smith, represented by two races, nearly equally destitute of hair; the first belongs to the greyhound stock, having a dull purplish unctuous skin, and in general is deficient in the incisor and canine teeth, and often wants several of the molars. Mr. Darwin in his work just published, *Animals and Plants under Domestication* (vol. ii, p. 326) has, I find, mentioned the case of this Burmese family with their abnormal hair and abnormal teeth, and has given another curious instance of "correlated variability." "Here," he says, "is another case communicated to me by Mr. Wallace, on the authority of Dr. Purland, a dentist. Julia Pastrana, a Spanish dancer, was a remarkably fine woman, but she had a thick masculine beard, and a hairy forehead; she was photographed, and her stuffed skin was exhibited as a show; but what concerns us is that she had in both the upper and lower jaw an irregular double set of teeth, one row being placed within the other, of which Dr. Purland took a cast. From the redundancy of the teeth her mouth projected, and her face had gorilla-like appearance."

The respective ages of Maphoon and her two sons are now about forty-four, eighteen, and fourteen years. The elder boy, it may be noted, now hideously ugly—but perhaps photography has not done him justice—and very abnormal as to his hairy covering, had nothing abnormal about him when he was seen by Col. Yule as a boy of five years old. It is probable I may get further information about this family from a friend of my brother's, Captain Duncan, Inspector General of Police, British Burmah, who has lately returned from Ava to Rangoon.

VII.—*The Varini of Tacitus, or Warings, and their relations to English Ethnology.* By HYDE CLARKE, Fellow of the Ethnological Society, of the Royal Society of Northern Antiquaries, Member of the German Oriental Society, of the American Oriental Society, of the Academy of Anatolia, of the Philological Society of Constantinople, etc.

[Read February 25th, 1868.]

THE investigation of English ethnology has been retarded by many prejudices; a desire on the part of students of Germanic ethnology to look only to High Dutch or only to Scandinavian relations; the reference by others of everything to the question of mixed races, thereby working out either to Roman or to Celtic origins; and thirdly, a preference even for Slavonic influences. The consequence is there is a confusion of opinions, and much of the work is still left to be done. So the question of the settlement of Britain by the English is left undecided, whether as stated by the Anglo-Saxon chronicle, and attested by evidence; or whether, as assumed by others, that it did not take place but by insensible immigrations in the Roman period; so it necessarily follows that few have investigated the question of the tribes which took part in the conquest of Britain, and we have made little progress beyond the addition of the Frizians to the Angli or English, the Saxons, and the Jutes. To these I join the Warings, the early Danes, the Bructers or Boructuarii, the Franks, Vandals, and Burgundians.

While studying the tribes of the *Germania* of Tacitus, I was forcibly struck with the junction of "Angli et Varini," and I sought in authorities to find out who were these Varini so joined with the English at that time; did they continue so joined; were they severed, and what became of them. So far as then appeared, they were lost to history. The point appeared to me worthy of solution; and I persevered with considerable labour, and often deterred by difficulties, and by the way in which men of authority had dealt with the question. I arrived, at length, at the conviction that the Varini were the Varegs of Russian history; and on the 29th of January, 1849, I sent to the Antiquarian Society a paper read on the 15th of February on this point, and on others affecting the rectification of the fifteenth chapter of the first book of Bede's *Ecclesiastical History*, and the ninth chapter of the fifth book.

About the same time Professor Rafn, that laborious investigator, took up the subject of the Varegs, or Russians, and produced the *Antiquités Russes et Orientales*, published by the Royal Society of Northern Antiquaries, in two volumes, in 1850 and 1852. In this work, the intercourse of the north with Russia, the Byzantine Empire, and the east, was illustrated by all the evidence which could be brought to bear from Norse sources. As the Norsemen were largely mixed up with the Warings, it flattered the national sympathies of the Scandinavians to refer everything to Norse origins, and the late Professor Rafn naturally felt little disposition to accept my invitation to examine the evidence of the connexion with the English, as well as the Scandinavian race.

In the *Germania* of Tacitus, illustrated by Dr. Latham (p. cxviii, p. 144, and p. cviii) he leans to the opinion that the Varini and Varni were Slavs, and not Germanic. In this state of the question* among men of learning, and nothing having been said on the other side for some time, except occasional references by myself, communications to the Academy of St. Petersburg, and a paper published in Constantinople, I have thought it useful to bring the subject again forward, with such further facts as I have been able to collect. The matter is one which but incidentally attracted the attention of many men of learning, particularly Zeuss, and they have arrived nearly at the same solution as myself; but there is now a confusion and contradiction of opinions; in the midst of which, however, the weight of the authority is in our favour.

I believe the chief difficulties have arisen and yet continue from the attempt to trace upwards, instead of starting from the source. Thus as to the Waranghians, the prevalent opinion of the most learned men in the last century was that the Waranghians were so called from a Norse word of doubtful existence, said to mean thieves and vagabonds, as if they themselves would use such a term of reproach, or as if Slavonians would so name them in a tongue unknown. We now have as a favourite opinion that maintained by Rafn, that all Waranghians were Norsemen.

On starting from the beginning, the first mention we have of the Varini is by Pliny, about the year 50, in his fourth book, ch. xiv, where he names them with the Carini. These Carini I am disposed to consider as a designation of some leading tribe of Angles, as Hunsing of the Frisians. I may

* Those who are interested in the Scandinavian view, will find it developed in the paper of Mr. H. H. Howorth, on the "Origines of the Norsemen," in the 6th vol. of the *Transactions of the Ethnological Society.*

note that Varni is a name used for a Bactrian tribe (Bender, *Die Deutschen Ortsnamen*, Siegen, 1846, p. 7.)

About fifty years later both Tacitus (*Germania*, 7, ch. 40) and Ptolemy (Book ii, ch. 2) enumerate the English or Angles and the Varini, as neighbouring and in the same geographical position. Tacitus links "Angli et Varini." They are named by him as immediate neighbours and as engaged with other tribes of a group in the same worship. All these I consider as embraced in the dissertation begun by Tacitus in his thirty-eighth chapter on the Suevi or Suevians.

Here must be mentioned the Rugii, who are also named by Tacitus as in the neighbourhood of the Gothones and the Baltic. (Tacitus, *Germania*, cap. 43; Ptolemy, ii, 2; Ammianus Marcellinus, *Exc.*, sec. 48.)

The northern part of the Germania on the Northern Sea, the Baltic, and the between lying mainland of Jutland, was peopled in the time of the Roman writers by several nations, who were not well known or distinguished by the Romans. They included the Frisians, Lombards, Saxons, English, Waringes, Rugians, Goths or Jutes, Burgundians, Vandals, and other less known tribes. The precise position of these tribes at any given time cannot be absolutely decided. These denominations were not indeed applied to separate nations or tribes, but to confederacies formed out of the general body of clans of the Suevians.

In each confederacy, so far as we know, there were some branches of the same clans, together with other clans limited to one confederacy. These clans it is to be presumed were not of the same origin, nor did they all speak the same language. The chief modifications known are the English, the Frisian, and the Gothic. What is recorded as having taken place in the settlement of Britain gives us the means of estimating what took place in the earlier and later Germania. Numbers of several confederacies took place in an expedition under a kingly leader, but we find in the nomenclature of the country that a certain number of clans shared in all the new confederacies or kingdoms established. Accordingly as a certain tongue happened to be in the majority, and became the confederate language, so would a dialect be formed. This is most probably the true cause of the several dialects in England, and the settlement of any part by a mass of English, or Frisians, or Jutes. As we find among the Frisians of late that there are a great many dialects, so it would be with all these confederacies of old.

Thus the constitution of these confederacies was not of one kind or settled, and they were materially affected by the con-

tests first with the Celts and then with the Romans, by which, the Allemanic tribes being thrown into conflict with the Roman empire, the Sævian tribes behind them were displaced. Adventurers left the Suevians to join the Allemani, and afterwards we find large bodies of the confederacies of the Goths, Vandals, Burgundians, Franks, and Lombards, moved south and west, and taking part in the destruction of the empire, as afterwards did the Saxons and English.

The mother stocks remained behind, but thinned down and always disturbed by wars between rival kings; and at length they were displaced and replaced by Scandinavians, Slavs, and High Dutch. Thus we must not expect to be able to define the exact geographical position of any of these fluctuating confederacies during the Roman time.

The general position appears to have been this; Frizians on this side, Saxons on this near side of Jutland, English on the other, and the Warings and Rugians on the Baltic side of Germania. The Roman knowledge was so indistinct that the English are not named by Pliny, though the Warings are. (Lib. iv, ch. 14.)

It is on the emergence of these confederacies from Germania that we know more of them. The English, Saxons, Jutes, and Frizians took part in the invasion of Britain. The only direct evidence of the participation of the Warings as such, is in names like Waringwick, Warrington, Werrington, etc.; but Bede (*Historia Ecclesiastica*, v. 9) distinctly enumerates the Rugians. Mr. Daniel H. Haigh's views, if correct, also help us to identify the Warings in Britain.

Wæringwick (Warwick)

Warrington

"
Werrington

"
Warnford

Warnham

Warnborough

Warwickshire

Lancashire

Buckinghamshire

Devon

Northampton

Northumberland

Sussex

Hants

By this time the Warings, or Varini, under the designation of Warni, had sent a body down to the Rhenish border; and in the sixth century they are said to have been beaten by Chil-debert, king of the Franks. (*Fredegar.*, *Chron.* xv.)

Procopius often names the Warings (*Bellum Gothicum*, B. ii, c. 15; B. iii, c. 35; B. iv, c. 20), and it is he who tells the story of the betrothment of Radiger, king of the Warings, to the sister of the king of the East English. It is not easy to see how with this, among other proofs, of the connexion of the people, any one can have conceived the Warings to be Slavonians.*

* Mr. E. William Robertson, in his *History of Scotland*, refers to the Warings on the continent as Werns. He calls my attention to the letter,

The Billings are said to have been the royal race of the Warings. (*Traveller's Tale*.) The first historical Billing died in 967. Whether Ruric was of this race, or the Skiold race of Weden or Woden, is a matter to be further investigated. (*Traveller's Tale*; Rev. Isaac Taylor, *Words and Places*, p. 129; quoting Lappenberg, *Anglo-Saxon Kings*, vol. i, p. 213; Grimm, *Deutsche Mythologie*, p. 347.)

Radiger having broken his engagement and cast her off, the warlike damsel levied an army in England, crossed the seas, and landing in Germania, forced Radiger to marry her. Procopius names Hermegiscles king of the Warni. The Warni, like the old English, had the custom of marrying the father's widow. (Sharon Turner, *History*, B. iii, ch. 7.)

In 689 the Rugians or Russians, who are ranked by Bede among the tribes of English kin, are recognised as a people then subsisting in Germania (Beda, *Historia Ecclesiastica*, v). Jornandes names Ulme-rugi and Ethel-rugi, but whether these are sub-tribes we cannot now determine. A passage in Bede has been understood as deciding that the English and their kinsmen in Jutland had died out in his time. He says, "From the English, that is the country which is named Angeln, and which is said from that time to remain desert to this day, between the provinces of the Jutes and the Saxons, came the East English, etc." This King Alfred repeats in the next century in his translation, and it has been taken generally as stating that the English wholly left Jutland, whereas the meaning cannot go further than that the part called Angeln was emptied of its people, for Alfred himself, in his *Orosius*, expressly names Frysland, Angli, Sillend, and Dena as in that country. It appears likewise that there were remains of Vandals* and Burgundians, and perhaps of Lombards, in those countries, of whom some portion may have shared in the invasion of Britain, and of whom those enumerated by Alfred may have performed their last national feats under the banner of Ruric.

The Warings were not so successful as their brethren in securing some share in the spoils of the Roman empire, but as good a lot awaited them. After the eighth century, when the settlement of Britain made less calls upon them, they seemed to have turned their attention to expeditions to the Baltic, to which we have stray references in the Sagas. They were, however, from these drafts on their strength, dwindling in numbers,

in Dom Bouquet, of Theodoric to the King of the Gwerini, warning him against the Franks; but the king seems to have joined the Franks against the Thuringians, and to have profited by the conquest.

* Langebeck, 1169, note on the *Chronicon Erici Regis*.

the Slavonians slowly passed their borders on the east and south, took the island of Rugen, and settled in Mecklenburg, while the High Dutch advanced from the west and the Scandinavians or Norsemen from the north. Thus in time, on the extinction of the old English races, the south of Jutland became, as it is now, High Dutch, and the north Scandinavian, the Danes, formerly akin to the English, becoming a Norse-speaking people, the Saxons being extinguished by a High Dutch population, and of all the famous tribes of Jutland, a few Frizians alone remaining on the main and on the Holy Island of our race, Heligoland at the mouth of the Elbe, now under our sway, a curious circumstance by which this national temple of twenty centuries is preserved to our people.

Before the time of Charlemagne the Warings in Jutland had the laws of Wulemar, the same as the English and the Frizians, and it was about the year 800 that Charlemagne confirmed these laws, which are still preserved and are identical in spirit with the Anglo-Saxon laws of Britain, and also the early laws given by our people to Russia. (See under the name of Angli et Werini the collections of Leibnitz and Lindenbrog).

Whether the Warings shared in the forays of the sea-kings on the coasts of Britain is not yet determined; but in the ninth century we find them most actively engaged in the Baltic, where they held the foremost rank. They took tribute from the Slavonians, notably the Choods, Slavs, Merians and Kri-vitches (*Chronicle of Nestor*, 859). They must at an early period in that century have found means to penetrate down the rivers of South Russia into the Black Sea, for in 839 a number of Russians were stopped by Lewis, the son of Charlemagne, making their way home from Byzantium, by accompanying an embassy from the Greek emperor Theophilus to Lewis.* The old Russian Chronicler expressly affirms that there was a regular route for expeditions from Waringia, or the land of the Warings, into Greece. The Baltic Sea was named by the Slavonians the Waring Sea, as by the alarmed Romans the east shore of Britain was called the Saxon shore. The Dwina and the Dnieper were used as channels of communication, the Warings going up the rivers of Slavonia in small barks, and carrying them across from river to river, just as their brethren did in Britain, and Slavonia was so disorganised that the people were unable to resist these rovers. They seem to have sold Welsh, Irish, French, and other slaves to the Byzantines, bringing back Slavonian furs and Byzantine gold. Novgorod, in North Slavonia, was the great seat of this trade. That the

* *Annales Bertiniani*, A.D., 839; and Luitprand, Book v, chap. 6.
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Warings penetrated into the countries in the neighbourhood of the Caspian, by the Wolga, is most likely, for Nestor refers to this route.

By the middle of the century, the Slavonian countries were in miserable straits, through the disunion of their own several tribes, and the invasions of the Turkish tribes. The Warings levied regular tribute on the Slavonians of the Baltic. In 860, 861, and 862 their incursions continued. Some of the tribes wished to refuse tribute, but others thought it better to obtain the Warings as allies. They said, "Let us seek a prince who can govern us, and speak to us according to justice." Accordingly, as Vortigern king of Britain had done before, the Slavonians sent an embassy to Jutland, consisting of Choods, Slavs, and Kriviches, and others. They said to the princes of Jutland, "Our country is great, and everything is in abundance, but order and justice are wanting; come and take possession of the soil, and govern us."

As Hengist and Horsa had done before with three keels or ships, three brothers likewise of the godlike and kingly race of Weden—Ruric, Snow, and Troovor—agreed to do, and to take part in the expedition to Slavonia, for which they levied their hosts. These brethren belonged, says Nestor, to the kind of Warings called Russians, as others are called Swedes, Northmen, English, and Goths. This was about 862, according to Nestor.

It is likely, although the date of Nestor varies thirteen years in another case, that this is about the right date; for I am inclined to consider Ruric to be the same Ruric, a great sea king who ravaged the continent* in 850 and 857, and who appears to have been a relative of Harold or Heriold.† The affiliation of Ruric is not settled, but his descendents constitute princely houses in Russia to this day, and the dynasties based on that of Romanzow seek to establish a claim from the house of Ruric. By the marriage of the daughter of Jaroslaus, duke of Russia, to Henry le Bel, king of France, the blood of Ruric has passed into the veins of most of the princes and gentlemen of Europe.

It may be here noted that it is highly desirable the chronicle of Nestor should be translated into English.

They landed among the Slavs and built the town of Ladoga,‡ a site as famous in our annals as that of the landing of Hengist

* *Annals of Fulda*, A.D. 850, 857, 882; ; *Anh. Mett.*, A.D. 850, 857; *Ann. Bertiniani*, A.D. 850, 855, 867, 870, 874, 882.

† *Annals of Fulda*, A.D. 852. This has been treated on by Kruse, Rafn, and others.

‡ Dr. Henderson says, that on the banks of the Ladoga was found a coin inscribed "ETHELRED REX ANGLO-*rum*". Sharon Turner, b. vi, ch. ix.

and Horsa in the Isle of Thanet, and of the Pilgrim Fathers in New England, and fraught with consequences as important. Ruric, the eldest brother, settled on the banks of the Ladoga river, Snow on those of the White Lake, and Troovor at Isborsk. Two years after the two younger brothers died, and Ruric swayed alone. He conquered most of Slavonia, and divided it among his aldermen, who built many towns, and settled Warings among them. It was these successive settlements which drained away from Jutland the remainder of the old English, the Warings and Saxons, and possibly the Goths, Burgundians, and Vandals.

Two chieftains, Oskold and Dir, men of noble blood, but not of the race of Weden, formed an expedition on their own account, to attack Constantinople, but on their way made themselves masters of the town of Kieff, and the country of the Polanians. In 863, 864, 865, and 866, according to Nestor, they were engaged in plundering the Greek empire, but in 851 according to the Byzantine historians. This was the first of a series of four attempts made to plunder the treasures of this city of Constantinople within a period of one hundred and ninety years, expeditions which from their boldness are among the most remarkable feats of the English race. They attacked the greatest city of the world, inhabited by a people great in knowledge and wealth, and this they did with the slightest means. The bottom of their barks (Gibbon, chap. lv.) was made of the long stem of a beech or willow, and on this foundation the sides were raised with planks till the height reached twelve feet and the length sixty. The boats were without a deck, having a mast and two rudders, and made to move either by sails or long sweeps. They carried from twenty to forty men, their arms, fresh water, and salt fish or meat.

The Warings began with a fleet of two hundred ships, but towards the end they got together a thousand. After plundering the north shore of Anatolia, Oskold and Dir passed the Bosphorus, and occupied the port of Constantinople, having slaughtered many Greeks. The emperor Michael, son of Theophilus, hastily returned. He was an impious and dissolute prince, who was accustomed to parade the city with his buffoons dressed as bishops, and mounted on jackasses, and with such companions had assaulted the patriarch and his bishops. When the Warings assailed the city, his chief resource was in superstition; for he repaired to the Church of the Virgin Mary at the Blachernæ, and under the advice of the patriarch took from it her under garment, a precious relic, and dipped it in the sea. This being followed by a tempest, which shattered the Waring fleet, and compelled their retreat, the glory was attributed to the Virgin Mary.

The Warings had, however, got considerable plunder from Anatolia, so that in 904 Oleg or Olaf, the regent of the young kings, was encouraged to make another attack. He got together two thousand ships, and a great body of Warings, English, and Northmen, and of Slavonians, and approached Constantinople. The Warings attacked the open country, and the Greeks having closed the Bosphorus against his fleet, he carried it overland, as Mahomet the Second is said to have done afterwards, and assailed the gates of the city. The Greeks having made overtures of peace, first tried to destroy the troops with poisoned wine and provisions.

The Greeks were compelled to pay an enormous sum to the 80,000 troops of the fleet, and negotiate a treaty. The names of the Waring ambassadors include those of Carl or Charles, Pharwolf, Weremund, Ingild, Good, Ruald—thorough northern names. By this treaty provision was made for mutual intercourse between the Warings and Greeks. Vessels wrecked on the Waring coast were to be sent back; prisoners were to be exchanged on paying ransom; the Warings being largely engaged in the slave trade had a right to reclaim fugitive slaves; fugitive criminals were to be restored; Waring workmen in Constantinople or elsewhere were to be subject to English law, and their property after death was to be sent to their own country. This is an early instance of capitulations in Constantinople.

Olaf required of the Greeks to find silk sails for the Warings and cotton sails for the Slavonians, and raised his shield above the gate of the city in token of victory. The scene of these events was most likely near the Adrianople gate.

From 935 to 941, Ingår or Igor, the king of the Warings, was engaged in preparations for war or in war with the Greeks. He raised a large fleet, and began by attacking Bithynia and wasting Pontus as far as Heraklea, and Paphlagonia, and Nikomedia, bearing fire and sword everywhere. The Greeks in 941 defeated Igor in battle, and with great slaughter, and attacked his fleet with Greek fire. On both sides great atrocities were committed. In the next spring the Warings got together new troops, and sent beyond sea to the old Warings and their kinsmen to join him. In 944 he led a large army by land and sea against the Greeks, having with him a considerable body of Patzinag Turkomans, an early instance of alliance between the two races. The Greek emperors bought off this war with a large danegeld, and the Patzinags were let loose on the Bulgarians.

In 945 a new treaty was made between the Greek emperors Romanus and Constantine and the Warings. This treaty was

signed by many Warings, among whom are to be recognised Wolf or Olaf, Haldan, Alphad, Bronwald, Thorfred, Thorwen, Ingeld, Ruald, Grim, Hakon, Frodi, Adon, Adolph, Antiwald, Furst, and Swain (Rafn, i, vi, gives these names otherwise). One of them is named as a merchant. By this treaty free trade is allowed to the Warings throughout the Greek empire, but they were to have passports. The Warings engaged to find auxiliary troops for the Byzantine empire.

In 955 the queen Olga made a voyage to Constantinople, and was baptised as a Christian under the name of Helena. This caused great dissatisfaction and indignation among the Warings and English on her return. In 964 Swithoslaf or Swatoslaus, the son of Igor, began a new war against the Greeks, but he was led by a present of fifteen hundred pounds of gold, or £60,000, to attack the kingdom of Bulgaria, for which he levied 60,000 men. He conquered this kingdom, but became involved in a war with the Greeks, in which he advanced to Adrianople, at the head of a large army of Warings, English, Norsemen, Slavonians and Turks. A new emperor however, John Zimisces, a brave Armenian, had succeeded to the Byzantine throne, and advancing against the Warings, he beat them and drove them back, and after a desperate struggle they had to return home.

I have not investigated whether the Warings had any share in the invasion of Hungary referred to by Gibbon, ch. lv; Pray, *Dissert.* vi, vii; Katona, *Historia Ducum Hung.* pp. 95-99, 259-264, 476, 479, 483. According to Rafn they likewise attacked Armenia (*Antiquités de l'Orient*).

We now return to the proceedings of the Warings in the land they had conquered.

In 882 Olaf, the regent, made himself master of Kieff. Taking with him a body of warriors in barks, he went up the river, and, concealing them in ambush, he sent a message to say that a party of Waring merchants trading to Greece in the name of Olaf and Igor were staying near Mount Ugor, and would be glad to see their countrymen. Oskold and Dir resorted thither, when they were surrounded by the warriors, and Olaf, showing them the young king Igor, said to them, "You are neither kings, nor of the blood of kings. Here is your lord." At these words they were slaughtered, as having usurped the rights of the race of Weden, which claimed the sole prerogative of filling the thrones of the north, as they then did of twenty kingdoms, and as their descendants now claim to do of England, Denmark, Russia, and Saxony.

The end of Olaf sounds like a legend of the Isle of Sheppey. Olaf had asked a soothsayer, "How shall I die?" and he

answered, "Earl, the horse you love, and on which you ride, shall bring you death." Olaf put away the horse, and five years afterwards he sent for his groom and asked what had become of the horse. The groom answered he was dead. Then Olaf said, "What the soothsayer says is lies. My horse is dead and I live." He went straightway to where the bones of the horse lay, and looking at them said, "That is the beast that was to cause my death;" then he kicked the skull with his foot, but a snake shot forth and stung him in the foot, giving him a deathly wound.

The restless Warings and English were not only engaged in Slavonia, but they entered the service of the Greek emperors, and the Mussulman kings of the East. Massoudi, the Arab historian, states that Warings or Russians and Slavonians were in the service of the Great Khan of the Khozar Turkomans, and dwelt in his head town of Atel. In 912, with the leave of that prince, they fitted out an expedition with their ships or boats in the Caspian Sea, and wasted Daghestan and Shirwan. In 944, says another Arab historian, Abulfeda, they took the city of Barda, the capital of Aran, and fifty miles from Gradja, proceeding in their barks by the Caspian Sea and river Corz, and returning the same way. This subject has yet to be studied.

These countries were the frequent scene of Waring attacks, for Swithoslaf seems in 964 to have subdued the Yasses and the Kassogs, supposed to be the Ossetinians and the Circassians.

Many of the legends of the Warings, as has been already seen, are like those of their brethren in England. Olga, the wife of Ingar or Igor, had a deadly hatred against the Drevlians for slaying her husband. Having slain many of their best leaders, she beleaguered their town, of which the houses were thatched and built of wood. After some time the Drevlians made offers of peace, with a tribute of honey and fruit. Olga, with affected generosity, declined, and asked three sparrows and three pigeons from each house. These being delivered, the queen at night let them loose with lighted matches tied to their tails, and the birds flying back to their nests, set fire to the town in a hundred places, when it was assaulted and the people slaughtered. The same legend is told of Ciren-cester,* thence called Sparrowchester, and of Wroxeter and of Silchester.

During the tenth and eleventh century the Warings and English died out in Jutland, and the Waring influence in Sla-

* Layamon, Brute.

vonian diminished. In the old country they seem to have been devotedly attached to the national religion of the worship of Woden. Hence dissensions arose between the old party and those they looked upon as degenerate forsakers of the great lawgivers of the north (Palgrave). Hence began those attacks of the sea kings on the English in Britain, followed up by the Norsemen, and as the various expeditions thinned the people, so did the Norsemen preponderate, the sect of Thur acquired the dominance, and the sect of Woden declined, while ancient nations died out in their olden abodes. The same feeling was awakened with regard to Slavonia; in time the Waring or Russian chiefs, few in proportion to the rest of the population, having intermarried with the Slavonians, lost their own language and religion, and acquired those of the Slavonians, and at length the name Russian ceased to mean those of English blood, but Slavonians alone, for so long as the national feeling was upheld, and the pride of blood swayed, a careful distinction was made between Russian and Slavonian, as between free and serf. Thus too in Spain, Gothic became the name for noble blood.

The famous Waldemar or Wladimir, being king of Russia, sought as his queen Rogneda, the handsome daughter of Earl Rognwald, saying "I wish to wed thy daughter." "Do you wish Waldemar?" said her father to the lady. "No, I will not marry the son of a slave;" for Waldemar was not the son of an Englishman, but a son of King Swithoslaf by a Slavonian woman named Malusha. Waldemar, however, sacked the earl's town of Polotsk, slew him and his sons, and forced the lady to wed him.

At an after time, having sought other wives, Waldemar neglected the Queen Rogneda; but having gone to see her in her abode near Kief, and there falling asleep, she sought to stab him, when he woke up. He then determined to wreak vengeance on her with his own hand, and he bade her clothe herself in her wedding dress, to await her death on a rich bed in her richest chamber. She did as she was bade, and the king came into the room to slay her, but was met by their boyish eldest son, Isiaslaf, who, by his mother's orders, offered Waldemar a drawn sword, and said, "Take that sword and thrust it in my bosom, father, for I, thy son, will not be witness to the death of my mother." "Who thought of seeing thee here?" said Waldemar, and he threw away his sword. He then called together his earls, but the Warings refused to countenance the death of Rogneda, and he gave her and their eldest son the city of Rognwald to live together. Waldemar afterwards became a Christian, and married the daughter of the Greek emperor.

This state of affairs caused growing dissatisfaction between the half Slavonian kings and the Warings, and though when in difficulties the kings took shelter among the old Warings, as in 977 and 1030, and they drew warriors from them, they constantly sought means to lessen their influence. About 980 the Warings claimed the tribute of Kieff, which they had conquered, and Waldemar having deluded them, they reproached him with it, and said, "We know the road to Greece." "Go, then," said he; but Waldemar sent a letter to the emperor of Constantinople to let him know of their coming, warning him against them, and urging him to slay them.

The last mention we have of the Warings in Jutland is in 1030, but most likely some lingered there till the end of the century. In 1018 a large body of them were slaughtered at Novgorod. In 1023 a party of 800 went to Constantinople on the usual errand of seeking service with the emperor, but Basil suspecting them, prevented their landing. They accordingly made their way into the Sea of Marmora, beat the admiral of the Greek squadron, and pushed on to Lemnos, where they were attacked by a larger force, and, surrendering on conditions, were treacherously slaughtered by the Greeks. There were already, however, considerable numbers in the Greek service, and one body of Warings was quartered in Lydia and Phrygia. A Waring having insulted a native woman, shot in the struggle got hold of his sword and slew him. His countrymen coming up, and learning what had happened, said the woman was worthy of reward, and gave her the plunder of the dead man, to whose body they refused burial.

About 1041 the Warings and their dependents, under the name of Russians, were in considerable numbers throughout the empire, not only as warriors but as merchants, and a quarrel having arisen at Constantinople between some merchants and the Greeks, a Waring chief was killed. This was used as a plea by Waldemar the younger to take arms, when a bloody warfare took place before Constantinople, in which the Warings at first suffered a very great loss, but afterwards defeated the Greek fleet. In the main object of their expedition, to ransom Constantinople, they failed.

In Russia, the rights of the Warings as a race were recognised, and their most curious monuments are their laws. These make a distinction between the Waring and the Slavonian, and they are framed exactly like the laws of the "*Angli et Werrini*," and the Anglo-Saxon laws of the same time, murder and all other offences being commutable by a weregeld or money fine, the oath of a Waring being received as evidence of innocence by compurgation, and questions of debt being referred to a jury

of twelve. "If a debtor shall refuse to pay what he owes his creditor, the suit shall be brought before twelve persons, who shall be the arbitrators." Such is defined in the laws of Jaroslaw, and the like in the laws of Isiaslaw, Vsevolod, and Swithoslaf, passed at a Witanmote. This latter code recites the laws of frankpledge and streetward. Many of the lands seem to have been held in soccage. The law of succession gave the throne to the eldest male, as among the English. The alderman or leader of each district in time of war was chosen by the people. Spoil taken in war did not belong to the prince, but to the commonwealth of warriors.

In 1077 the Waring guard of King Vselaw sent to King Swithoslaf and Vsevolod or Oswald, to occupy the city of Kieff, offering to defend it against the Poles, but threatening that if he did not they would set fire to it, and make their way to Greece. Greece was about to become the last home of the Waring. In Russia their race existed but in name; already large bodies of Greek priests had been introduced; the Slavonian language was cultivated by them, although Norse was understood at court; the nobles having begun by adding Slavonian names to their English or Norse names, ended by dropping these, and adopting Slavonian and Greek names, although by the kings the name of Ruric was long upheld.

At the end of the eleventh century the settlement of William the Norman on the throne of England caused great numbers of the nobles of the national party to seek shelter abroad. Some fled to Scotland, and founded families there, but many went to Jutland, to Russia, and so to Constantinople, where they joined the Waring or Waranghian guard of the emperor (William of Malmesbury, *de Gestis Anglorum*, lib. ii; Ordericus Vitalis, *Historia Ecclesie*, lib. iv, lib. vii; Cedrenus). According to Scarlatius Byzantius, p. 12 (communicated by the Rev. Charles G. Curtis, of Constantinople) the church of St. Nicholas and St. Augustine in Constantinople was founded by one of these noble exiles, and was a Latin church, having indeed for one of its patrons the first missionary to the English, Augustine.

We now witness the spectacle of a great nation dwindled to a legion, but the spirit of nationality was kept up. Even in the palaces of Constantinople these guards spoke the English tongue, according to Codinus, and Gibbon says the Waranghians rose each day in confidence and esteem, the whole body was assembled at Constantinople to perform the duty of guards, and their strength was recruited by a numerous band of their countrymen. "They preserved till the last age of the empire the inheritance of spotless loyalty and the use of the English

tongue. With their broad and double-edged battle axes on their shoulders, they attended the Greek emperor in Constantinople to the church, the senate, and the hippodrome : he slept and feasted under their trusty guard, and the keys of the palace, the treasury, and the capital, were held by the firm and faithful hands of the Waranghians."

It has been alleged that the costume of these guards was adopted for the Palace guard of the Sultan, and it is even said the late Sultan, in state ceremonies, rode covered by the high plumes borrowed from the Waranghians, which I have seen, but I have been told by Turkish authorities that this was a new and modified costume.

To the incorporation of the Anglo-Saxon refugees and the national characteristics of the Waranghians, Sir Walter Scott has given popular testimony in his *Count of Paris*.

Of the connexion of the Waring Russians of Constantinople, and of the reverence their valour created, a well-known legend is preserved, as recorded by Gibbon. It was attested and believed by the vulgar of every rank, that an equestrian statue in the square of Taurus at Constantinople was secretly inscribed with a prophecy showing the Russians in the last days should become masters of Constantinople. This brazen statue was brought from Antioch, but was melted down by the Latin crusaders. The legend has been kept up till modern times, and seemingly claimed by the Muscovites ; but they are not of the blood of the Warings, nor are the Muscovites their true heirs.

Professor Rafn, in his *Antiquités de l'Orient*, attributes the rune-carved lion of the Piræus to Harold the Tall, who is supposed to have fled from the north, and made his way by Russia to Constantinople in 1033, entered the Waranghian guard, and rose to be its chief, quitting the service in 1043. After that, according to Rafn, he married Elizabeth, daughter of Jaroslav, Grand Duke of Russia, and became king of Norway. This then was the Harold who invaded England in the time of our king Harold, the son of Godwin.

Rafn remarks that the Waranghian guard was sent on various expeditions. It was employed in Asia on the eastern borders of the empire ; in Iberia, and against the Saracens in Sicily and in Apulia. In 1034 and 1035, the Waranghians passed the winter in the western part of Asia Minor, or Caria, Lydia, and Phrygia.

In 1040 the Bulgarians revolted, and headed by Delean, advanced against the city of Thessalonika, in which the emperor Michael the Paphlagonian then was, but on their approach he fled to Constantinople. Delean then marched upon Epirus and Achaia, took Dyracchium, and many other cities in the

south and in Greece. It is therefore to the wars of this period that Rafn attributes the conquest of Athens by the Waranghians, which they recorded by the Runic inscription on the marble lion. This lion was afterwards transported by the Venetians to Venice, and is to be seen near the gate of the arsenal.

Rafn reads the inscription, "Hake, with Ulf, Asmund, and Orn, conquered this port. These men and Harold the Tassl imposed heavy fines on account of the revolt of the Greek people. Dalk remained captive in distant countries; Egil had gone with Ragnar to [Rumania] and Armenia." If Rafn be right in deciphering this last word, another far country is added to the resorts of the Warings.

In 1103 the Waranghians were quartered at Bafi, the ancient Paphos in Cyprus, and Eric, King of Denmark, died there (Rafn, *Antiquités d'Orient*, p. xii, p. xxxi).

The twelfth century brought the Warings and English into conflict with their foemen, the Normans. Robert Guiscard, Duke of Sicily, invaded Albania, and engaged in the siege of Durazzo. Alexius Comnenus marched to its relief. The main strength of his army consisted of Waranghians, supported by some companies of Franks or Latins.

A bloody battle took place before Durazzo, and the English, burning to revenge their defeat at the battle of Hastings, led the vanguard, making a deep impression with their battle axes on the Lombards and Calabrians. The Duke and his wife rallied their Norman horse, and, attacking the Waranghians on their left flank, which was left uncovered by the Greeks, turned the fate of the day. After a siege of seven months, Robert took Durazzo, but the English still defended the country with their feeble strength. They suffered, however, another loss by the surprise of three hundred of their number in the city of Castoria, but in the end the Normans had to retire. In gratitude for the exertions of the Warings, Alexius gave them a domain said to be named Baringa. This is, I believe, Wranya, some say between Petrina and Gobja.

The head of the Waranghian guard was a great officer of the court, who was called the Akolyth. In the defence of Constantinople against the Latin crusaders, it is expressly stated that the firmest hope of the Greek Emperor was in the strength and spirit of the Waranghians, among whom Norsemen were then mixed. The Waranghians made a desperate defence, but the city was surrendered and taken possession of by a contending Greek emperor and by the Latins. The Latin ambassadors made their way to the palace of the Emperor Comnenus through the streets lined on both sides by the battleaxes of the Waranghian guard.

At an after period they were intrusted with the treasures left by the Emperor Vataces, which they guarded in a strong castle on the banks of the Hermus, in Anatolia, probably that near Ninfi. It was the suffrage of the Waranghians that caused the Imperial crown to be placed on the head of Michael Palæologus in the Cathedral of Nice; and with him they returned to Constantinople.

With regard to the question of the Slavonic relationship of the Varini, when the subject is traced from its source, it is not worth entering upon at any length. From first to last, we find them associated with the English, and speaking English. By the Russians they and their country and the sea were known as Warings, Waringia, and the Waring Sea. In Russia they and their laws were called Russian, and in Byzantium they called themselves Warings.

That from the period of the historical invasion of Slavonia they were much mixed up with Norsemen, and that this infusion became stronger and stronger until the extinction of the Warings, is a fact in conformity with all the evidence as to Jutland.

The general history of the tribes of Jutland is this. They were, in the time of the Romans, Danes included, Suevians. First, during the wars with the Gauls, and afterwards with the Romans, they proceeded southwards towards the scene of action on the Rhine. At or about the same time they began to colonise the Low Countries, materially affected by the Roman settlement. The Saxons employed themselves on the shores of Britain, and on the decline of the Roman power, Britain became a field for adventurers from Jutland. The invasions of the Roman empire, the settlement of Britain and of the Low Countries, so unpeopled Jutland and the countries to the east of the Elbe, that the Scandinavians filtered in from the north and the Slavs pushed in from the east. In Southern Germany the Suevian power was broken by wars, and the High Dutch, pressed on perhaps by the alien tribes behind, filled up Eastern Germany.

The expeditions to Slavonia, and beyond it to the Black and Caspian Seas, must have been of ancient date, traditional, perhaps, from the epoch of Germanic immigration. The Warings being seated on the Baltic side succeeded to this mission, and prospered down to the time of the foundation of the Russian empire.

The ethnological deductions to be derived from these investigations are—

First, the fact of the replacement of a race by another.

Second, extinction by intermarriage.

Third, absolute extinction of a race.

The points I have endeavoured to establish are—

First, the true nature and history of the Varini, restoring this race to its place in history.

Second, the facts as to the foundation of the Russian Empire, by our own kindred.

Third, the true relations of the Varangian guard.

* Near Coimbra, in Portugal, live, according to a note of Mr. William Bollaert, fishermen named Varino or Vareiro,—fishermen who are looked upon in the country as a separate caste; thought by some to be the descendants of a Phœnician colony. They are a fine race. One of this body, named Vareiro, discovered Newfoundland.

VIII.—*On the History and Migration of Cultivated Narcotic Plants in reference to Ethnology.* By J. CRAWFURD, Esq., F.R.S.

[Read Feb. 25th, 1868.]

TOBACCO, although unknown to civilised man before the first voyage of Columbus, is now, perhaps, the most universally consumed of all cultivated plants. Botanists reckon no fewer than forty species of the genus to which it belongs, *Nicotiana*, all of them having more or less of a narcotic quality. Tobacco owes its universality of consumption to the vast area over which it can be cultivated, extending from the equator to the fiftieth degree of latitude,—to the facility with which the plant can be reared; and, above all, to its narcotic property. These qualities make it a cheap, seductive, and accessible luxury to persons of every condition of life and with every race of man.

The almost universal name by which tobacco is known, at least among the nations of the Old World, is the Spanish one, *tabaco*, but from what source the Spanish word itself is taken, is very far from being ascertained. The *Dictionary of the Royal Academy of Spain* derives it “from the name of the province where it grows, or from that of an island on the coast of South America.” This, however, is vague and unsatisfactory; for there is no province of America called *Tabaco*, which is the Spanish form of the word, nor island so called on the coast of South America. *Tobago*, which is 16° north of the equator, is the island here alluded to; but the Spaniards, who had discovered in 1492 the great islands of Cuba and Hispaniola, where they found the inhabitants using tobacco, are not likely to have waited four years to give it the name of a little island which they did not discover until 1496. Las Casas and Charlevoix take it from the name of the pipe, with which the plant was smoked, in the language of the Caribs of Hayti; and as the inhabitants of this island were among the first American people seen by the Spaniards and making use of the plant, this etymology has an air of probability, although it is not easy to understand how the instrument with which the plant was used, came to be mistaken for the plant itself. The probability is that, in the many native languages of America, tobacco had as many different names as there were tongues; and we may judge of the number of these when we see that

Columbus found the plant cultivated and used in Hayti, Cortez in Mexico, the Portuguese in Brazil, and Raleigh in Virginia. The writers of the sixteenth century were not curious in etymology, or we should have been better informed on the subject.

The Spaniards, as the first discoverers of America, must necessarily have been the first Europeans to learn the use of tobacco from the natives. The companions of Columbus or of Cortez may have introduced it into Spain, but there is no record of its first introduction into that country. In the year 1560, sixty-eight years after the discovery of America, one Jean Nicot, whose name is recorded in the technical name of the plant, acting as an agent of the King of France in Portugal, procured at Lisbon, from a Dutchman, some tobacco-seeds, which the latter had brought from Florida. Whatever may have been the case in Spain, the plant seems at the time not to have been cultivated in Portugal, or we should not have seen a French agent obtaining its seeds from a Dutchman who had brought them direct from America. The seeds so obtained by Nicot he sent to France, and from them plants were raised. This fact is a record of the first introduction of the culture of tobacco in France.

Sir Walter Raleigh, on his return from his first voyage to Virginia, in 1586, is supposed to have been the first to have introduced tobacco, and the practice of smoking it, into England. If so, the plant was not known in England until twenty-six years after it was known in France, and not until ninety-four years after the discovery of America. King James's celebrated *Counterblast to the Puffs of Tobacco*, although said to have been printed earlier without a date, was published in the collection of his works in 1616, only thirty years after the supposed introduction of the plant by Raleigh; and to judge by the language used by the king, its use must have made very rapid progress in this brief time. "Now," says his Majesty, "to the corrupted baseness of the first use of this tobacco doeth very well agree with the foolish and groundlesse first entry thereof into this kingdom. It is not so long since the first entry of this abuse amongst us here; as this age cannot yet but very well remember both the first author, and the form of the first introduction of it amongst us. It was neither brought by king, great conqueror, nor learned doctour of phisicke." "Now, how you are by this custome disabled in your goods, let the gentry of this realm bear witness; some of them bestowing three, some four hundred pounds a-year upon this poisonous stinke, which, I am sure, might be bestowed upon many far better uses." "And for the vanities

committed in this filthy custome, is it not both great vanitie and uncleannesse that at the table,—a place of respect, of cleannesse, of modestie,—men should not be ashamed to sit tossing of tobacco-pipes, and puffing of the smoke of tobacco one to another, making the filthy smoke and stinke thereof to exhale athwart the dishes, and infest the aire when, very often, men that abhor it are at the repast? Surely smoke becomes a kitchen farre better than a dining chamber; and yet it makes a kitchen oftentimes in the inward parts of men, soyling and infesting them with an unctuous and oily kind of soote, as hath been found in great tobacco takers, that after their death were opened. And not only meate times, but no other time or action is exempted from the publicke use of this uncivil trick. Moreover, which is a great iniquity, and against all humanity, the husband shall not be ashamed to reduce thereby his delicate, wholesome, and clean complexioned wife, to that extremity that either she must also corrupt her sweet breath therewith, or else resolve to live in a perpetual stinking torment."

His majesty's diatribe concludes with the following peroration:—"Have you not reason, then, to be ashamed, and to forbeare this filthy noveltie, so basely grounded, so foolishly received, and so grossly on the right use thereof? In your abuse sinning against God, harming yourselves both in persons and goods, and raking also thereby the markes and rites of vanity upon you by the custome thereof, making yourselves to be wondered at by all forrein civill nations, and by all strangers that come among you to be scorned and contemned. A custom loathsome to the eye, hateful to the nose, harmful to the braine, dangerous to the lungs, and in the black stinking fume thereof, nearest resembling the horrible Stygian smoke of the pit that is bottomlesse."

If King James's statement, that the gentry of England spent three and four hundred a year on tobacco, and indulged in smoking during meal times, be not exaggerated, the use of the weed in the age of the "*Counterblast*" must certainly have risen to the height of a public nuisance, and they must have been at the time the greatest smokers in Europe, while we are certainly not so now. But it is certain, however, that there must be much colouring in his majesty's representation; and one cannot help thinking that his indignation against tobacco had some connexion with his hatred of Sir Walter Raleigh, whom he evidently points at as the party who first introduced the use of the plant, and to whose execution he gave his sanction in the very year of the publication of the *Counterblast*.

Notwithstanding King James's denunciation of tobacco, its

consumption in England went on increasing; and it is singular enough that Virginia, a colony specially patronised by the king himself, became, even in his own time, our chief source of supply. The culture of the plant was introduced into England, but prohibited by the king, and during the Commonwealth wholly suppressed.

James the First was not the only sovereign who attempted to stem the consumption of tobacco; for the Moghul emperor Jehangir is said to have gone the length of publishing edicts against it, as did the contemporary of both, the emperor of Japan. But a weed, the use of which was borrowed from the savages of a New World, has defeated all their attempts at its suppression; and the use of tobacco has been now established among all the nations and tribes of the earth for two hundred and fifty years.

Religion has been somewhat more effectual than imperial edicts: the founders of some new creeds have prescribed abstinence from it as a test of adherence to their tenets. The Sikhs—not indeed in the time of the founder of their religion, for that preceded the discovery of America, but after tobacco was in full use by the Hindus—prescribed forbearance from it as an indispensable tenet; and the Wahabi Arabs were still more rigid; for the use of it is pronounced to be a more heinous sin than robbery or assassination. This ascetic reformation of Mahomedans by the Arabs was conveyed by Malay pilgrims, as far as the remote island of Sumatra, and there produced a civil war; but here again tobacco was victorious, and the heresy which forbade its use suppressed.

Tobacco was unquestionably first made known to the nations of Asia and Africa through the people of Europe. The name of the plant is, with rare exceptions and trifling modifications, the Spanish one. According to Mr. Lane, the modern translator of *The Arabian Nights*, the plant was introduced into Turkey, Arabia, and Persia, about the beginning of the seventeenth century, or better than a century after the discovery of America. There is no record of the time in which tobacco was first introduced into Hindustan: there can, however, be little doubt that it was effected by the Portuguese. The plant is not named in the *Memoirs of the Emperor Baber*, who died in 1550,—that is 52 years after the first arrival of the Portuguese in India; although Baber names several remarkable plants of the country new to himself, as a foreigner. Down to this time, therefore, it had not been introduced into India. Java is the only eastern country in the annals of which there exists a record of the first introduction of tobacco, and

this event is stated in them to have taken place in A.D. 1601. In all the languages of continental India, as well as in those of the Malayan and Philippine Archipelagos, the Spanish name, with inconsiderable modifications, is tobacco. There is, however, one whimsical exception. The popular language of Java has the usual name; but in the Court dialect, which is what may be called a factitious tongue, the name is *sata*, literally "the game-cock." In the monosyllabic languages of all the nations which lie east of India, the Chinese included, we cannot expect that a trisyllabic word should find admittance, and hence the name which tobacco bears in these is an invented one, having some reference to its quality or use. Thus, in Siamese, it signifies "medicine", and in the Chinese "smoke". We have no account—with one exception, which I have above mentioned—of the first introduction of tobacco into any of these countries; but there can be no doubt that the Portuguese were the instruments, for their influence in all these quarters began about the commencement of the sixteenth century, and lasted until about the end of it. Whether in Europe, Asia, or Africa, it seems to have taken a full century, from and after the discovery of America, before tobacco became known: once known, however, its consumption spread with a rapidity beyond precedent in any other commodity. The use of this narcotic is, indeed, the sole arbitrary custom, in which all the races of mankind agree.

It is curious and instructive to reflect on the vast quantity which is now consumed of a commodity unknown to the Greeks and Romans, as well as to the Persians, Arabians, Hindus, and Chinese of antiquity,—which was unknown, indeed to the great majority of mankind two centuries and a half ago. We are ourselves by no means the largest consumers of tobacco; for we are exceeded by nearly all the nations of the continent of Europe, and by all the colonies of European nations. These are again surpassed by the oriental nations, who grow their own tobacco at a very small cost, and among whom it is in use often by both sexes, in youth as well as in old age. Our own yearly consumption at present is near 40,000,000 of pounds, or close on 18,000 tons, which gives rise to a foreign trade of the value of £3,300,000; while this mere exotic weed is the instrument by which £6,000,000 of our revenue are conveniently levied. Let us suppose the rest of the world to consume in the same proportion, taking the population at its usual estimate of twelve hundred millions, and the yearly consumption of this product of the New World, once grown and used only by savages, will amount to the enormous quantity of 78,666 tons,—a quantity the bare transport of which would

occupy about one-seventh part of the whole registered tonnage of the United Kingdom.

Our consumption of tobacco is greatly on the increase. Taking round numbers, our consumption in 1821 was 15,600,000 pounds, with a population of 21,000,000, giving an average consumption per head of nearly twelve ounces. With our present population of 30,000,000, the average per head is nearly twenty ounces; so that in little more than forty years' time our consumption has increased by better than 66 per cent., or in other words, it is by two-thirds more than it then was.

As to the effect of the use of tobacco on health, my own conviction is that it is neither salutary nor hurtful, but wholly indifferent. Like all narcotics and stimulants, it is liable to be abused by excess; but with the exception of tea and coffee, it may be safely said to be less so than any other commodity of corresponding character. The sanitive condition of the nations of Europe has, at all events, improved since they began the use of it, so that it cannot at least be said to have proved seriously detrimental.

The next subject which I shall consider is opium, and this without reference to its medicinal use, and only as a subject to produce intoxication in substitution of fermented and intoxicating liquors. Opium, as is well known, is the inspissated juice of one species out of twenty-five of the genus *Papaver*, or poppy. This is the *Papaver somniferum* of botanists, of which there are two cultivated varieties,—one with white and one with red flowers, both equally yielding opium. The drug is obtained from the capsules by making incisions in them in the evening, when the milk-coloured sap which exudes becomes the brown rob, which is scraped off in the morning. This is opium in its purest but semifluid state. The culture of the opium-poppy requires a good soil, some manuring, not otherwise frequent in Asiatic husbandry, with much careful weeding. This with the laborious manipulation necessary for taking the crop, accounts for the high price of the drug. The culture, indeed, can only be successfully conducted in a densely peopled country, where the wages of labour are low; and hence it has never been carried on in any European colony, even where soil and climate would be well adapted to it, as in many parts of America, of Australia, and of New Zealand.

The opium-poppy is thought to be a native of the warmer parts of the temperate western Old World, and is supposed to be there indigenous; more especially in Egypt, Asia Minor, and Persia, countries in which it is still cultivated for its prepared sap. The plant was, most probably, first cultivated for

its seed, to be used as food, or for its oil. We can, indeed, readily believe that the seeds of the wild poppy would be among the earliest vegetable food of primeval man. It is likely that the collection of the sap, as less obvious, would be a much later discovery.

The countries in which the poppy is at present cultivated for the production of opium, are Egypt, Asia Minor, Persia, and subtropical India, with, in very late years, subtropical China. Unless with a considerable elevation of land, the poppy cannot be cultivated within the tropics for the production of opium. Even in Northern and Central India, and in China, it can only be cultivated for this purpose, because, as an annual, a crop of it can be obtained in the winter months, corresponding to the summer of the countries in which it is indigenous.

Opium is first mentioned by two writers of the first century of our era, Pliny and Dioscorides. Pliny's definition of opium is so correct, that it is evident he was well acquainted with the source from which it was derived. His description is, "*Papaveris succus densatus*", or poppy-juice thickened or inspissated. The Greek name *opion* comes from *opios*, a vegetable sap, and has had a very wide extension; for it reaches as far to the east as it does to the west. Thus, in Arabic we have it as *afyun* or *abyun*; the letter *p* not existing in this language, another labial is substituted for it. The Persians appear to have no native name for opium, and employ the same name as the Arabs, replacing the Greek labial. From the Persian, the word has been adopted by all the languages of India, and by the Malayan languages. But both the Arabs and Persians have another name for opium: this is *tariak*, which, however, is but a synonym, the word signifying "treacle", a name evidently given to the semi-liquid drug from its close resemblance to this commodity. That the Persians borrowed both these names from the Arabs is to be inferred from their containing letters which are peculiarly Arabic, and which are not to be found in any purely Persian word. As to the European names, they are all directly or indirectly from the Greek, as the Latin *opium*, and this without change in French and English; in Italian *oppio*, and in Spanish *opio*.

The probability is that the Greeks acquired their first knowledge of opium from Egypt, and that it was through them that a knowledge of the drug was extended to the Arabs, most probably by translations or paraphrases of Greek works on *Materia Medica*. If this was the case, it would follow that the knowledge of opium was communicated to the oriental nations in comparatively modern times; that is, in the seventh and

eighth centuries, when the conquests of the Arabs, in a westerly direction, brought them into communication with the Greek Empire. If the practice of opium-eating had been as notorious among the ancient Persians as it is now among modern Persians and Turks, the Greeks, who had so much communication with them, must surely have alluded to the practice, which they have not.

There can be no question that the Hindus received the opium-poppy, whether for its seed or sap, from the Persians. Of the twenty-five species of the genus to which the opium-poppy belongs, there is but one within the wide bounds of India which is a native, and this belongs to the Himalayas. In Hindi, the name for the opium poppyhead, or flower, is *post*, and this is one of its Persian synonyms. Its name in Sanskrit is *chosa*, which Dr. Boyle supposes, and I think fairly, to be a mere corruption of the same word. For opium itself, that language has no name; from which we must infer that the drug was unknown to those whose vernacular tongue was Sanskrit.

At what time the culture of the opium-poppy was first introduced into India there is, as in all such cases, no record. It was not, however, likely to have happened until after the Turks and Persians, who invaded Hindustan in the first year of the eleventh century, had been tolerably well established in their new conquest, which would not have been the case earlier than the twelfth century. In the early years of the sixteenth century, the trustworthy Portuguese traveller, Barbosa, in describing the trade of Malacca, which he visited, enumerates opium as one of the commodities which the Arab and Hindu merchants brought to that emporium, there to be exchanged for Chinese goods with the junks of China. He states that some part of the drug was brought from Aden, in Arabia, and some also from Cambaye, in India, which was made there. The first was probably the produce of Syria, or what we now call Turkish opium; and the last what is known in commerce as Malvoah opium. Barbosa even mentions their respective prices, making the Arabian or Turkish more valuable than the Indian by thirty-three per cent., or about one-third part.

The consumers of opium as a luxury, and in room of intoxicating potables, are the Turks, the Persians, the Malayan nations, but far above all, the Chinese. Its use among the Turks,—I state this on the high authority of Lord Strangford, familiar with their language and themselves above all Englishmen,—decreases in proportion as the consumption of wine increases. My friend, Sir Justin Shiel, so long our representative

in Persia, tells me that opium is much consumed by the Persians, and, by long habit in some instances, in almost incredible quantities.

That opium was unknown to the Chinese before their intercourse with the people of the west, is implied by the names they give to it, namely, "foreign smoke" and "foreign earth", and "dirt-smoke", with occasionally such approach as they can make to its usual name, *yapeen*. But at what time the Chinese first began to use opium as a luxury, we have no account. As already shown, however, it had been brought both from Arabia and India to the emporium of Malacca, for their use, in the early years of the sixteenth century. It seems at that time, however, to have been an established branch of the trade of that emporium; and the consumption of the drug by the Chinese was most likely of much earlier introduction, probably even coeval with the commencement of the commercial intercourse of the Arabs with China. Its use, however, could not have been general, and therefore conspicuous at the end of the thirteenth century, or it would have been mentioned by Marco Polo, who does not notice it.

The common hemp, the *Cannabis sativa* of botanists, is the only species of the genus to which it belongs that contains a narcotic principle, and this is very powerful when the plant is the produce of a warm climate. It is considered to be a native of most parts of temperate Europe and Asia, and is found wild in the Himalaya mountains. Of all cultivated plants, it seems to have the widest geographical range; for it grows freely in Sumatra under the equator, and flourishes in Russia up to the 66° of latitude. Thus, the celebrated navigator, Dampier, recognised an old and familiar acquaintance in a field of it near Achin, in Sumatra. An Indian name was given to it; but he insisted, and he was right, that the plant before him was but homely hemp.

In Europe, hemp is cultivated only for its valuable fibre; but in Asia seldom or never for this purpose, and only for its narcotic juice. The practice of using it as a narcotic seems to have had its origin with the Hindus, who still continue to be its principal consumers. The plant bears different names in the different languages of India, from which it may be inferred that it is indigenous, or at all events immemorially an object of culture from the Himalaya mountains to Cape Comorin. In Sanskrit it is called *bijaya*, a name which has not been adopted in any of the vernacular tongues. In Hindi, the prevailing tongue of Northern Hindustan, it has at least three names, *patti*, *sidaya*, and *bhanga*, the last by far the most current. In the Telugu or Telinga lan-

guage the name is *ganja*, and in the Tamil we have it as *shumul*.

From India, the use of hemp to produce intoxication was extended to Persia; and from what quarter of it the Persians received it may be inferred from its name in their language, which is the most popular one of Northern Hindustan, the Hindi word being written *bang*, without the aspirate. This would imply a comparatively modern introduction; because if it had been an ancient one, the word would have been the Sanskrit one in its integrity, always, however, supposing the latter to have been a genuine and not a factitious term, the invention of the Bramins.

Wherever the Hindus have settled, their inclination is to carry with them the use and even the cultivation of hemp. Thus they have, as already alluded to, introduced it into Sumatra. I have myself seen it cultivated in Java; and I find they have also introduced it into the country of the Burmese. Of none of these countries is hemp a native plant; and the only name by which it is known is *ganja*, a word, as already stated, of the language of the Telugus, the most active of the Hinda emigrants from India. I have not heard that the Coolies, or Indian labourers, who have within the last thirty years emigrated to the Mauritius and the Antilles, have as yet introduced the cultivation of hemp into these countries, where it would certainly grow as freely as in Java and Sumatra; but for their use, there is a considerable exportation of the article from Bengal.

Mr. Lane, in his *Manners and Customs of the Modern Egyptians*, tells us that the Arabs acquired the practice of using hemp to produce intoxication from the Persians, which, however, is not to be inferred from etymological evidence; for the name of the plant, which the Persians had taken from the Hindus, has not been adopted in the Arabic, which has several names of its own for it, among which is *kanab*, which seems only a corruption of the Greek *cannabis*. According to Mr. Lane, the name for an habitual hemp-eater or smoker is *klashish*, the plural of which is *klashishén*, and it is the origin of the word *assassin*, which has had so wide an acceptance in the languages of Europe. The Crusaders found the practice of producing intoxication by hemp among their Saracen enemies in Syria, and imagining that it was the practice of the Arabs to drug their enemies, the more safely to destroy them, they gave the name of the habitual hemp-smokers or hemp-eaters to secret murderers. Mr. Lane observes, that the practice of using hemp to produce intoxication was introduced into Egypt towards the middle of the thirteenth century; but as it was familiarly

known to the Arabs, the masters of Egypt, during the Crusades, which lasted from the end of the eleventh to the beginning of the thirteenth century, an earlier date must be ascribed to the introduction of the practice into Egypt.

The narcotic quality of hemp was well known to the ancients, and is mentioned by Herodotus and Galen; but the practice of using it to produce intoxication has never gained root in Europe, probably on account of the feeble inebriating quality of the hemp of temperate regions, for in this respect it resembles the opium-poppy.

The parts of the hemp chiefly used to produce intoxication are the leaves and capsules, which are bruised, mixed with water, and eaten, or in a dry state smoked in a pipe. A concreted exudation from the glands of the plant, known to the Hindus of Upper India under the name of *charris*, contains the intoxicating principle in a more concentrated form than the leaves, and is much esteemed. The inebriation produced by hemp is more agreeable to the Hindus than that produced by opium, and consequently the latter is little used by them for the purpose.

BETEL.—Among the stimulants in universal use among a large portion of mankind, is the betel preparation. The ingredients of this masticatory are the leaf of the betel-pepper, the fruit or nut of the Areca palm, catechu or gambir, as the case may be, and a little slaked lime. The use of this mixture is general with both sexes throughout Hindustan, the Malay and Philippine Archipelagos, the Indo-Chinese countries, the southern provinces of China: as far as we know, such has been immemorially the case.

The most essential of the ingredients now named is the leaf of the betel-pepper, and as this can be used only in its fresh state, the consumption of the preparation is bounded by the geographical limits within which the plant is capable of being cultivated. The betel pepper, the *Piper betle* of botanists, is probably a native of tropical countries, and of these only. It is cultivated, however, beyond the tropic and up to the twenty-eighth degree of latitude, but in this case only with much care, for the plant requires irrigation, and has to be grown under a thatched roof to protect it against the scorching heat and drought of the summer. It is here grown, in fact, as the exotics of warm climates are grown with ourselves, only that the protection required is in one case against cold, and in the other against heat.

The name of the betel-pepper in Sanskrit is *tumbol*, and in Hindi, *nagled*, but the leaf, as distinguished from the plant, is called *pan*. The Persian name of the plant is *tumbol*, evidently

derived from the Sanskrit. In Tamil, the name is *Velli*; and in Telugu, *betré* or *bellé*, the same word with a trifling difference of form. From one or other of these two words the European name is derived. In the languages of the Malayan Archipelago, we find each tongue to have its own special name for the betel. Thus in Malay it is *sireh*, in Javanese *sura*, in Balinese *basé*, in the language of Ternate *vido*, and in that of Amboyna *amo*. This frequency of distinct names in the Malayan languages would seem to imply that the betel-pepper is an indigenous plant in many parts of the country, and Rumphius, indeed, asserts that it is found wild in several of the islands of the archipelago. With whom the strange practice of using the betel masticatory originated it would be difficult to say; but we may at all events be tolerably certain that it began in a tropical country, and that in time it extended beyond them.

With respect to the second most important ingredient, the Areca, the palm which yields it is the *Areca catechu* of botanists, a tropical plant, and like the coco palm, limited in its growth to a short distance from the sea. The names by which the areca palm is known, point at the localities which are native to it. In Malay it is called *pinang*,—a word familiar to us by its giving name to the well-known British settlement in the Straits of Malacca. In Javanese its name is *jambi*, which has been given by Javanese settlers to a native state of Sumatra, from which locality, and written *jambee*, it found its way into the English language, Dr. Johnson defining it, on the authority of *The Tatler*, as “a name formerly for a fashionable sort of cane.” In the Macassar language of Celebes, it is *rapo*, and in the Balinese *banda*. In the dialect of Amboyna, the name is indifferently pronounced *pua* and *kuah*, which seems to be a corruption of the Malay word *buah*, signifying “fruit”. In the Tamil, the most southerly language of continental India, the name is *paku*; in the Telugu it is *areka*, the name adopted by the European languages. In the language of Bengal, the name is *supari*, and it is the same in Hindi, while in Sanskrit there is no name for it, from which we may, perhaps, infer that the people, of whom the Sanskrit was the vernacular tongue, were ignorant of the betel preparation. Unlike the leaf of the betel-pepper, which is never used but in its fresh state, the fruit of the areca, although where it grows it is always used fresh, is also used in its dry state, and it is hence a large article of exportation to countries of which the areca palm is not a native; and more especially to Upper India and China, the Island of Sumatra affording in this commerce the largest supply.

Previous to the discovery of America and the introduction

of tobacco, the habitual stimulant of the people of tropical Asia was the betel preparation, which seems to have some narcotic quality, probably derived from the betel-pepper.

The third ingredient in the betel preparation is a vegetable astringent, which used to go under the name of *Terra Japonica*,* a term which embraced two mistakes,—that the substance was an earth, and that this earth was the product of Japan. The vegetable astringent in question is known in commerce under two different names; namely, *catechu* and *gambir*, which are the products of two distinct plants. The catechu is produced by a species of *acacia*, which takes its trivial name from it. This is a wild forest-tree, and the catechu is obtained by boiling and inspissating the inner wood. The tree has a wide geographical range; for it is found all over Continental India, and the Hindu-Chinese countries. In Hindi, the name for catechu is *kath*, and in Malay *kachu*, and from one of these, most probably from the latter, comes, by some odd corruption, the catechu of the *Materia Medica*, and the *cutch* of commerce.

Gambir is the product of a species of *Nauclea*, to which it gives its trivial name. It is a tall shrub, now extensively cultivated, but of limited geographical range; for it is confined to the Malay Peninsula and the islands immediately adjacent to it. The product is obtained by boiling and inspissating, not the wood but the leaves. The name is pure Malay and that of the plant; and to complete it for that of the extract, the word *gatta*, gum, or inspissated sap, has to be prefixed.

Of late years, both catechu and gambir, formerly used chiefly as a masticatory by the Oriental nations, and to a trifling extent by Europeans medicinally, has been largely employed in the arts, as a substitute for oak-leaves, and become a considerable article of trade, the extent of which may be judged by our own importations, which at present exceed 2,000 tons of catechu, and 10,000 tons of gambir.

With what people the practice of chewing the betel preparation, for it is confined to mastication, originated, it is difficult to say. We may, however, be certain that it did so where the two main ingredients, the betel-pepper and areka-palm, are indigenous, and therefore readily procurable. This would restrict us to the southern part of India and the western parts of the Malayan Archipelago; and it is in these two regions that the practice is at present most prevalent. It is rarely used in Upper India, and unknown in Persia and Northern China. It appears most probable that the practice originated with the people of southern India, and that it was they who introduced it among the Malayan nations at the time they introduced the Braminical religion, with a considerable amount of the sacred

language of the Bramins. For this hypothesis, however, there is certainly no philological evidence, the names for all the ingredients of the preparation being different in all the languages,—a fact, perhaps, to be accounted for by the plants yielding them being everywhere indigenous, and consequently bearing everywhere a native name, for which the substitution of a foreign one would not be called for.

IX. — *On the History and Migration of Cultivated Plants yielding Intoxicating Potables and Oils.* By J. CRAWFORD, Esq., F.R.S.

[Read March 10th, 1868.]

I SHALL endeavour in this paper to give an outline of the history and migration of the plants which have been chiefly employed for the production of intoxicating potables, the result of fermentation or of distillation, and of those yielding oils. The discovery of the art of manufacturing some kind or other of intoxicating beverage, may be said to be coeval with the first dawn of social development; for it has been soon made by barbarians of every race in possession of the requisite raw materials: it is mere wandering savages only that have been found ignorant of it. The first discovery of the art is, therefore, beyond our reach; but we may be sure that it was made at many different and independent points, varying with climate, and hence with the vegetable productions employed.

All plants containing starch and sugar will yield an intoxicating liquor by fermentation, the quality and quantity of which will vary with the product yielding it. In cold regions, where neither the vine, the sugar-cane, nor palms will profitably grow, intoxicating beverages are produced from the *cerealia*, or corns; and all of these, wheat, rye, barley, oats, maize, and millets will yield it, but of these barley in most abundance and at the smallest cost. In the first century of our era, Pliny and Tacitus state that a fermented liquor from corn was the beverage of all the Germanic nations known to them, and it continues still to be the ordinary drink of their descendants. We hence infer that the discovery of malt liquor was a native invention with the Germans, corroborated from finding that such words as malt, wort, beer, ale, are, with small orthographic variations, the same in all the Teutonic languages.

The Anglo-Saxons brought the art along with them to England, or rather, there imposed their own names; for we cannot infer from the mere nomenclature that the art of brewing was unknown to the Britons before the Anglo-Saxon invasion, for we have different and seemingly native names for such essential words as malt and ale, both in the Gaelic and the Welsh. Thus the name for malt in the first is *braich*, and for ale *leann*, while the Welsh name for malt is *brâg*, ale having three synonyms,—*heiddlyn*, *cwrw*, and *diöd*,

The Gauls, before the Romans had extended the cultivation of the vine to their country, most probably had an ale or beer of their own; but to judge by language, it was the Franks who introduced it in later times, for the names, at least of beer and ale, in the French language, are obviously enough of German pedigree.

Even in countries where the culture of the vine was general, an ale or beer seems to have been in use. This appears to have been the case with the Romans, judging by their having a name for ale, or fermented liquor from malted corn, namely, *cerevisia*, a word which has been retained in the derivative Spanish as *cerveza*. The ancient Basques seem also to have had their ale; for in their language we have, to all appearance, a native name for it, namely, *gararinoa*. The ancient Egyptians, too, had, according to all accounts, an intoxicating beverage made from corn. The same may be said of at least the modern Persians, who have a beer which they call *buza*.

The Chinese of the northern provinces, although possessed of the vine, have never employed it for the making of wine, but make their fermented beverage from the greater millet, or *Holcus sorghum*. Within the tropics, where the chief corn is rice, an ale or fermented liquor is made from it. This applies to Southern India, Southern China, and the Malayan islands; and this is the case even where the palms abound. In the Malay and Javanese languages, this coarse and unsavoury beer is known under the names of *tapé* and *brâm*.

The beer consumed by the Germans and ourselves before the use of hops, must have been but a poor and perishable potation. Hops are said to have been first cultivated in England, not earlier than the reign of Henry the Eighth, the year assigned for their introduction being 1524. The country from which we received it was Flanders, and there we must conclude that the plant must have been previously employed in the manufacture of beer. The hop plant is said to be a native of Britain and Ireland, because found wild in hedges. This, however, seems doubtful, seeing that its culture has always been confined to a few of the southern counties of England, and that in the ancient languages of Wales and Ireland it has no native name.

All roots containing sugar or starch yield, by fermentation, as already stated, an intoxicating liquor; and those most employed (usually however, for the future preparation of spirits by distillation) are the common potato, the beet, and the manihots, or both the sweet and poisonous species of *Jatropha*. The last is the bread of the Brazilian Indians; but from the first a very intoxicating beverage is prepared, and much used. The yam and sweet potato, or *battata*, would equally yield an intoxi-

cating drink, but I am not aware that they have ever been employed for this purpose. In fact, the use of any root seems only to arise from necessity, in the absence of materials yielding products more abundant and agreeable.

The fermented juice of fruits has been immemorially used for the production of intoxicating beverages; and in southern Europe and western Asia the vine, the *Vitis vinifera* of botanists, has afforded the chief supply. Of the genus to which the wine-yielding grape belongs, there are several species; but it alone—diversified through long culture into many varieties—is the only one suited to the production of genuine wine.

The vine is probably an indigenous plant of several parts of western Asia, such as Persia, Syria, and Palestine; and even of southern Europe, such as Greece, Italy, and Spain. In all these places it is still found in the wild state. It may, indeed, have run into this condition from the cultivated state; but the different names for the plant in different languages would seem to point at its being indigenous in several widely different localities. Thus, we have it in Greek as *ampelos*; in Latin as *vitis* and *vinea*; in the Basque as *ardoa* and *matza*; in Persian as *anggur* and *raz*; in Arabic as *inab*; and in Sanskrit as *dakh*. In some languages we find the fruit bearing a different name from that of the plant. Thus, in Latin the grape is *uvum*, and in Greek a bunch of grapes has two different names, *staphulê* and *botrus*.

While men were yet wandering savages, the wild fruit of the vine would afford them but small sustenance. It would not be until they had increased in number, and made some progress in agriculture, that the vine would become an object of cultivation. But at what time this happened is far beyond the reach of history, since it must have taken place, and that, too, at many independent points, long before men had the capacity of recording their own actions. In Scripture, the culture of the vine, with even the art of making wine from its fruit, is mentioned at an epoch which, according to the usual computation, would carry us back nineteen centuries before the birth of Christ. The process of wine-making is unequivocally represented in the paintings of Egyptian monuments, and these will carry us to a time much earlier even than the Hebrew Scriptures. In the Homeric poems, the vine and its fermented juice are mentioned; and this takes us eight centuries before our era, to say nothing of the time which must have passed between that and the invention of the art.

The discovery of the art of making wine from the grape, seems to have been made in nearly every country in which the vine is indigenous, from Italy to Persia inclusive, taking these two countries to be, west and east, the native bound-

aries of the vine. The Roman conquests spread the culture of the vine; for the manufacture of wine from Italy to France, and from France it was extended to Germany, up to the fiftieth degree of latitude, for the production of good wine.

For the extension of the culture of the vine in Europe, I quote the following instructive passages from Gibbon: "In the time of Homer, the vine grew wild in the Island of Sicily, and most probably in the adjacent district of the Continent; but it was not improved by the skill, or did not afford a liquor grateful to the taste of the savage inhabitants. A thousand years afterwards, Italy could boast that of the fourscore most generous and celebrated wines, more than two-thirds were produced from her soil. The blessing was communicated to the Narbonese province of Gaul; but so intense was the cold to the north of the Cevennes, that in the time of Strabo it was thought impossible to ripen the grape in those parts of Gaul. This difficulty, however, was gradually vanquished; and there is some reason to believe that the vineyards of Burgundy are as old as the age of the Antonines" (*Decline and Fall*, vol. i, p. 91).

The spread of the vine may be traced from south to north by the name given to wine in all the languages of Europe. Thus, the *vinum* of the Latin is in Italian and Spanish *vino*, in French *vin*, and in German *wein*. Even in countries where the vine, from inclemency, has not been cultivated for the making of wine, the name has the same origin, for there can be no doubt but that the English *wine*, the Welsh *gwin*, and the Gaelic *fion*, come indirectly from the Latin *vinum*. In the European languages there is but one exception that I am aware of, the Basque, in which wine has the same native names as the vine itself, namely, *ardoa* and *matsa*. In Greek, the name for wine is *oinos*, or written with the digamma, as it is in the Homeric poems, *voinos*. This is considered by some philologists as the same with the Latin *vinum*; and if this be so, it would indicate that it was the Greeks who instructed the people of Italy in the manufacture of wine. For this observation I am indebted to the learning of my accomplished friend, the Hon. Edward Twistleton, without which, indeed, I should not have ventured an opinion on a subject to which I am much a stranger.

The vine is cultivated in eastern countries, for the making of wine, only as far east as Persia, of which the plant is stated to be a native,—a fact which would seem, indeed, to be implied by the existence in the Persian language of two names, *angur* and *raz*, not traceable to any foreign tongue. The Arabic has also a native name for the vine, *inab*, but from what source de-

rived I am unaware. The Sanskrit, too, has its own name, *draksha* becomes *dakh*, in the most current language of Northern India. It may be presumed, however, that this word was applied only to some species of uncultivated grape,—a conclusion to which I come from finding that the vine was not cultivated in Upper India, even at so late a time as the beginning of the sixteenth century, a fact stated in the celebrated Memoirs of the emperor Ackbar. Indeed, the vine is currently known throughout India only by its Persian name. At present it is cultivated for its fruit only, which is of a tolerable quality; but a superior kind is annually imported from the country of the Afghans, far more congenial to it.

In the northern provinces of China, the vine is cultivated successfully for its fruit; but it is remarkable that the Chinese, so superior to other Asiatic nations in the industrial arts, and especially in agriculture, should never have fallen upon the art of making a fermented liquor from the grape. The likelihood is that the vine was introduced into China only in comparatively modern times, and probably from Persia, through the Turks or Mongols. The monosyllabic languages of China, in this and similar cases, afford us no assistance; for the Chinese either disfigure foreign names so that they are not recognisable, or substitute for them fanciful names of their own.

The vine, for the production of good wine, depends more on climate, soil, and locality than, perhaps, any other cultivated plant, unless tea be an exception. All fine wines are limited to the twelve degrees of latitude which lie between the 36° and 48°. But quality depends also on soil and on skill in culture and manufacture,—the last condition, a question it may be presumed of civilisation, since France produces the finest wines under the seeming disadvantage of the vine being an exotic. In this case it is as if, through mere skill in cultivation, the coffee of Java or Ceylon were made to excel that of Arabia, or the tea of Assam that of China. No rude people ever made good wine.

The vine has been carried by European nations to all their extra-tropical colonies in the New World and the Antipodes, but it is remarkable, hitherto without marked success, although some approaches to it have been made in America and Australia. If, however, we are to judge by the example of France, which, when the vine was introduced into it was in reality a colony of Rome, the successful cultivation of the vine may be looked for in America and Australia.

Next to the vine, the fruit which has been most used for the production of an intoxicating fermented liquor is the apple. For this purpose it is cultivated in climates congenial to it, but

unfavourable to the growth of the greatly superior vine. In Europe, cider is produced only in the northern part of France, and the southern of our own country; and in these, as the common beverage of the people, it supersedes wine, and to a considerable extent even beer. In southern Europe and in temperate western Asia it is unknown.

The name for the fermented juice of the apple in our own language is, with very slight alteration, the same as the French, and it is the same with the other languages of Europe, including even the Italian and Spanish. The origin of the word cider has not been traced, and as the Romans were unacquainted with the beverage, it may be presumed that the liquor was an invention of the Romanised Gauls as a substitute for wine where the grape refused to grow for the production of wine. This would include Normandy, and it was probably the Normans who first introduced the manufacture into England. This conjecture would seem to be strengthened by the fact that cider has no name in the native languages of Wales and Ireland, although some parts of both these countries are favourable to the growth of the apple, and do in fact produce cider.

What applies to cider is equally applicable to perry. The name of the pear is, indeed, taken from the Latin, but the Romans knew no more of the fermented juice of the one than they did of that of the other, and our own is but a trifling corruption of the French word. It may be concluded, therefore, that perry, like cider, was most probably introduced into England by the Normans.

In a few parts of temperate America the apple, although an exotic, grows to greater perfection than in Europe and Western Asia, of both of which it is a native plant, and in these the manufacture of cider introduced from England is largely carried on.

The juice of the peach also has been used, both in America and Australia, for the production of a fermented liquor, but only for the purpose of being subsequently subjected to distillation.

The fruit of the date palm yields an intoxicating fermented liquor, and this was the humble beverage prohibited under the name of "wine" in the Koran, and we must presume that the heathen Arabs were much addicted to it, since Mahomet thought it worth while to interdict its use.

In the north of Europe, the berry of the juniper contains sufficient saccharine matter to produce a fermented liquor, and in some parts of tropical America the banana or musa is used for the same purpose.

The negroes of the western coast of Africa make a fermented liquor, and ultimately a distilled spirit from the fruit of the

cashew (*Anacardium occidentale*), but this must be a comparatively modern resource, since the cashew is a native of America, and must have been introduced into Africa by modern European agency.

From the berry-like flowers of a tree of India, which, when dried, resemble raisins, the Hindus have immemorially made, first a fermented liquor and then a distilled spirit. The tree in the Hindi language is called the *mahwa*, a corruption of the Sanskrit *mahduka*.² It is the *Bassia latifolia* of botanists, of the family of the *Sapoteæ*, the same to which the butter tree belongs. In one of his financial reports, Sir Charles Trevelyan says that the distilled spirit "is weak and perishable, and stands in the same relation to the people of India as beer does to the labouring classes of England."

The family of palms extends up to the fortieth degree of north and the thirty-fifth of south latitude, but is frequent only within the tropics. According to Dr. Royle, botanists have already described no fewer than two hundred and thirty-one species, and all of them, by cutting their flowering stem, yield a large quantity of sweet sap or "must," which, in a few hours after collection, runs into the vinous fermentation, and is then highly intoxicating. It is in tropical India, the countries adjacent to it, and in the Malay and Philippine Islands, that this beverage is chiefly used. In Continental India the palms chiefly employed for this purpose are the *Corypha talliera* and *Borassus flabelliformis*, both of which are called by the natives by the name of *tal* or *tar*, and the last by Europeans the *palmyra*. Another palm which yields a potable sap, in India, is the *Coryota urens*, and a fourth is the *Phoenix silvestris* or wild date. In the Malay Islands the palm chiefly used is the *sagwire*, or *Borassus gomuti*, called also the *Arenca saccharifera*. In the Philippine Islands it is the Nipa palm which is chiefly used. The coco and areca palms would equally furnish a sap, but are not employed for this purpose on account of the value of their fruit.

The negroes of Africa probably borrowed the art of extracting the sap of palms from the Hindu settlers of the eastern coast, but it is remarkable that the art has never been discovered by the native Americans, and this is the more remarkable when it is considered that of all the known palms, the New World supplies no fewer than 175, while Asia furnishes but 42, and Africa but 14. This fact, taken with ignorance of iron and of oil and wax, for giving light, must, I think, be considered as evidence of the intellectual inferiority of the red man compared with the Asiatic, since all these inventions have been immemorially known even to many of the rudest races of Asia.

The produce of a single palm tree is estimated in continental

India at from sixty to one hundred and twenty gallons of sap during the season, and the importance attached to this product by the people who consume it, whether as a potable or when converted into sugar, may be judged by our finding it distinguished in each separate language by one or more distinct native names, in the same manner as we distinguish by several names the produce of the vine from that of the plant. This implies clearly enough that the people making such distinctions had at a very early time discovered for itself the art of extracting the sap. Thus in Hindi we have the name as *taré*, often pronounced by the substitution of a palatal *d* for *r*, *tadi*, and it is the last form of this word which has become the English word *toddy*. Our countrymen no doubt thought they made a considerable improvement on palm wine when they imitated it with diluted rum and sugar.

But although the Americans had not discovered the art of extracting the sap of palms, they had discovered that of extracting the sap of another plant, unknown to Africa and Asia. This art was formerly restricted to a single people, the Mexicans, the most advanced of the American race, and to a single locality, the plateau of Anahuac. The plant that yields it is the American aloe, or *Agave Americana*, which for size and longevity bears the same relation to other liliaceous plants that the bamboo does to other grasses. It is extensively cultivated in the Mexican valley, its sap under the native name of *Pulqué* being the substitute of the beer and the wine of Europe, and of the palm wine of tropical Asia and Africa. "I do not exaggerate," says Mr. Edward Taylor, in an excellent work, containing the best account that I have seen of the Mexican table-land, "when I say that we saw hundreds of thousands of the agave plants that day planted in long regular lines. Among them were walking the Indian Tlachiquaos, each with his pigskin on his back and his long calabash in his hand, milking such plants as were in season."

All fermented liquors that have undergone the vinous fermentation, from whatever source derived, of course yield spirits by distillation. The art of distillation was, like the art of making sugar, unknown to Greeks and Romans, to Egyptians, to Jews, Assyrians,—even to the nations of the middle ages of Europe, down to the thirteenth century. The art is supposed to have been received from the Arabs of Spain; but if this were the case the Arabs must have long kept the art to themselves, or they could not have been long in possession of it, for in the thirteenth century they had been already full five hundred years in Spain. I believe there exists no record which traces the art to the Arabs, and the only ground for supposing them to have been the

parties from whom the invention was received by Europeans consists in a few Arabic words connected with the process of distillation, such as, alembic and alcohol. Against their claim, however, it may be urged that the Arabs, although they adopted and perhaps may sometimes have improved the arts of the nations whom they conquered, invented themselves no new art, as did the Chinese and even the Hindus.

It seems most likely that the alchemists of Europe, in the course of the many empirical experiments which they made, fell upon the discovery of alcohol, as they certainly did upon several other inventions. When they first made it, they imagined they had at length found the universal panacea, and the name which they gave to the newly-invented liquor points in many of the languages of Europe to this belief. Thus we have the Latin *aqua-vitæ*, the Italian *aguavita*, the French *eau-de-vie*, the Irish *usque-baugh*, that is, "water of health", which by a wonderful corruption becomes the English *whiskey*.

It is difficult through etymological evidence, and there is no other, to show whether the oriental nations had immemorially possessed a knowledge of making an ardent spirit by the process of distillation; for, in general, their languages make no clear distinction between fermented and distilled spirits. Thus, in Arabic we have three different names, *arak*, *khamar*, and *sukr*. The first of these, which has been adopted by all the Eastern tongues that have received any considerable infusion of Arabic, has the primary meaning of "sap" or "juice," spirits or alcohol being only a secondary one. The two last words mentioned mean any intoxicating liquor equally with ardent spirits.

The Sanskrit has three different names for ardent spirits, namely *mad*, *madhu*, and *barani*, but it is probable that, like the Arabic names, they apply equally to any intoxicating drink. The Hindi has certainly one clear name for alcohol, namely *daru*, but I have no means of tracing its origin. The Tamil has also a native name, *savayum*. In Javanese the term for ardent spirit is *brâm*, but it is the same as for fermented liquors. In Malay the native name is *gulang*, or *ayar-gulang*, which signifies "bright or refulgent water," evidently a factitious word. But the usual name both in Malay and Javanese is the Arabic one *arak*, although they also use the Chinese name *chu*. (water) The art of distillation is now practised by the Chinese, and seems to have been so immemorially, and it is easy to believe that the discovery would be made by a people who, without any foreign aid, were certainly the inventors of sugar, of silk, of tea, of paper, and of porcelain. The process followed is peculiarly their own, and has, therefore, every appearance of being indigenous. If therefore the people of Western and Central

Asia learnt the art of distillation from strangers, these strangers were probably the Chinese, the same people from whom they acquired the art of making paper and silk.

The opinion thus given respecting the discovery of distillation by the Chinese I give on the personal authority of my friend Sir John Davis, the first living authority on all questions respecting the great and ancient Chinese Empire. According to him, the still or alembic, now made of tin or iron, was in ruder times made of coarse earthenware, and hence its name *Tseng*, which signifies "a red tile." This is the name given to the still, whether employed in the distillation of ardent spirits or of drugs and perfumes; in the last case, however, having the word *ajo* prefixed, the compound then literally signifying "physic-still." The word *chu*, borrowed, as I have already stated, by the Malays, is the term for all intoxicating potables, like the *shrab* of the Arabs, and indeed our own word *wine* used generically.

All fermented liquors that have undergone the vinous fermentation yield an alcoholic spirit by distillation, the quality of the product depending on that of the raw material. Thus we have in progression, brandy from the vine, whiskey from barley, and genievre from the juniper berry. This last is the word corrupted by us into geneva, of which gin, an imitation of the genuine liquor, is a further corruption. The fermented sap of the sugar-cane yields rum, an English word, alleged by some to be taken from a cant name for a country parson, and which the French have adopted, writing the word *rhum*, and the Spanish writing it *ron*.

From the apple the Anglo-Saxon Americans distil an ardent spirit which goes under the name of apple-whiskey, and from the peach they make peach-brandy, much inferior to the spirit from the grape. From the fermented liquor of every kind of cereal an ardent spirit is produced, from our own whiskey, usually the production of barley, to the Chinese *chu*, vulgarly *shamshu*, made in the Northern Provinces from the greater millet, the *Holcus sorghum*, and in the Southern from rice. From a combination of sugar, palm wine, and rice the Chinese settlers of Batavia distil the ardent spirits well known by the Arabic name of *arak*, usually written *arrack*, and in pronunciation reduced to a monosyllable by the rejection of the initial syllable. The Mexicans having acquired the art of distillation from the Spaniards, make a spirit from *pulque*, the fermented sap of American aloe or agave.

In Sweden and Norway, where the cereals are scarce, a distilled spirit, a very inferior article, is made from the potato, and the Americans of the tropics make one also from the man,

dioca, the art of distillation having been in this case also acquired from the Spaniards or Portuguese.

It appears from the facts stated in the course of this paper that the use of intoxicating beverages, the result of the fermentation of vegetable products, is now, and has been from the earliest records of man, almost universal, the exceptions being confined to a few savages, without the skill or materials for their production; such as the natives of the Andaman Islands, of Australia, and of Tierra del Fuego. The people of the South Sea islands substitute for them the intoxicating juice of a species of pepper, the *Piper methysticum*, from its making the far-famed and filthy *kava*. The nomadic nations of central and northern Asia substitute for the fermented liquors drawn from vegetables, that which is produced from the milk of the mare and camel, the oft-described *kinis*, sourer than the most acid cider.

Mahomed prohibited the use of strong drink made from the fermentation of dates; but as he made no mention of opium or hemp juice, the Mahomedans do not think it unlawful to besot themselves with these drugs. At its first introduction, even coffee had a struggle to maintain itself against Mahomedan purists, who were for including it among forbidden drinks, because it bore an obsolete name for wine. The inhibition of wine is equally commanded by the Hindu religion as by the Mahomedans; but it is generally disregarded by the lower orders, while the higher substitute for it the juice of the poppy and of hemp. The Buddhist religion is even more stringent in its prohibition of strong drinks than the Mahomedan or Hindu; but it does not hinder the Buddhist Chinese, equally with the Confucians, from partaking of them freely and habitually, but also, it should be added, discreetly, for a drunken Chinese is seldom to be seen.

I come now to a brief account of the migration of plants yielding oleaginous products. In cold climates, oily substances for economical use are the products of the animal kingdom; in temperate climates, both of the animal and vegetable; and in hot ones they are, with few exceptions, the products of vegetables.

Among plants cultivated for their oil, some have a wide geographical range; while others, even under similar climates, are confined to comparatively narrow provinces. To the latter class belongs the olive, by far the most important of the oleaginous plants of Europe. The olive has been cultivated, from the remotest antiquity, in Greece, Italy, Egypt, Syria, Asia Minor, and partially in Gilan, the most western province of Persia, but nowhere further east.

In Africa (excepting its Mediterranean coast), in America, and in every part of central eastern and southern Asia, the olive, whether as an indigenous plant or as an exotic, is unknown as an object of culture. Nor have the colonists of European nations introduced it into such parts of America and Australia as, in so far as climate is concerned, would seem well adapted to its culture.

Of what country the olive is specially a native it is impossible to determine with any precision; but it is certainly found in its wild, uncultivated state, in Syria. Etymology will but feebly aid us even in tracing its migration. The Latin name, *olea*, is nearly the same as the Greek; and as we have no means of tracing the word beyond the Greek language, we must consider the Greek word as a native one, and hence the olive to be a native plant of Greece. It may, indeed, have been introduced into that country from Syria or Asia Minor, but we have no authority for asserting that it was so. We may readily believe, however, from its Greek name, that it was the Greeks who introduced the culture of the olive into Italy, from which the conquests of the Romans extended it to Spain, and to the south of France, its extreme geographical limit northward. In all the languages derived from the Latin, the name for the olive is obviously taken from that tongue. So it is in the Teutonic, the Slavonic, and the so-called Celtic languages. Even the common term for "oil" in all these languages seems to be taken from the Latin name of the olive, as in the examples of the *oel* of the German, our own oil, and the *ola* of the Gaelic. The Spanish adds a synonym taken from the Arabic, namely, *aceite*. The Persian name of the olive, *zeitun*, has no relation whatever with the Greek name; and therefore, in so far as linguistic evidence is to be trusted, the plant must be looked upon as indigenous in Persia. In Arabia the olive is called *zeit*; but this is also a synonym for the generic term "oil", and this is the word which, with the Arabic article, becomes in Spanish *aceité*.

The *sesame*, the *Sesamum orientale* of botanists, is the plant chiefly grown for oil in temperate climates, where the olive is unknown, and in warm ones, where the cocoa-nut will not thrive. The geographical bounds for the *sesame* extend from the equator to at least the thirtieth degree of latitude, and its culture may be said to extend from Africa to Japan, both included; but it is not an indigenous plant of the New World, and is wholly foreign to Australia and the islands of the North and South Pacific Oceans.

To judge by the many different names of the *sesame* in many languages, we must conclude it to be a native of many different

regions. Thus, its correct Arabic name is *simsim*, its Persian, *kunjad*, its Sanskrit and Hindi, *til*, and its Tamil, *yellu*: in Javanese it is *wijin*, or *bijin*, and in the two most cultivated languages of the Philippines, *lānga*, which, however, is only the Javanese word for "oil". The French name, *sesame*, evidently taken from the translation of *The Arabian Nights' Entertainments*, furnished the European form of the word, the genuine one being *samsam*. The Spanish, *ajonjolí*, is taken from another Arabic name. We have of late become economically acquainted with the *sesame*; for we now import it largely to crush for its oil, under its Hindu name of *til*.

The coco-palm (*Cocos nucifera*) is the great source of oil in equinoxial regions not remote from the sea, and this, whether in the Old or New World, or the islands of the Pacific Ocean. It is a sublittoral plant, growing but indifferently at any considerable distance from the sea.

In Sanskrit, the name of the coco-palm is *nargil*, in Hindi, *naryal*, and in Persian and Arabic it is *naryl*, most probably the same word. In Tamil it is a totally different one, *taingkal*. In the language of Java we have it as *kalapa*, corrupted in the leading language of Celebes into *kaluka*. In Malay, we find the name as *ñur*,—a word which has had a very wide currency, for we have it in the principal languages of the Philippines turned into *ñog*, in Javanese, as a synonym, as *ñu*: it is evidently also the same word which appears in the dialects of the great Polynesian tongue spoken in the Sandwich and Friendly groups as *niu*. It is probably even the same word which appears in the Tahiti and Marquesa dialects of the same tongue, in the form of *ehi*, for the transmutation of all foreign words in the language of the Polynesian non-negro people is almost unlimited, owing to the paucity of its consonants, and consequent incapacity of correctly expressing foreign sounds. This etymology would lead to the belief that it was the Malays who introduced the coco-palm into the islands of the Pacific, or at least who taught their inhabitants the art of cultivating it. All the dialects of the language of the Polynesians, whether of brown complexion and lank hair, or of black-complexion and woolly hair, contain more or less of Malay words, and these, nearly all indicating social progress, as in the example of the numerals, the names of tools, and those of cultivated plants.

But the Malayan name of the coco-palm has a yet wider extension in a western than it has in an eastern direction; for we find it, along with the Malayan numerals, in the language of Madagascar, at the distance of 7,000 miles from its furthest eastern extension. The name in this case is *būanū*, a com-

pound word; but little disfigured, taken from the Malay words *buah* *ñor*, signifying literally "fruit of the coco-palm".

The ancient Greeks and Romans appear to have been wholly unacquainted with the coco-palm. The Greeks, who visited only the northern parts of India, would, of course, not have seen a plant confined to the borders of the sea, and limited by the tropics; and their merchants who visited the western coast; who must have seen it, have not left any account of it. Even in the *Periplus* of the Erythrean Sea, written during the Roman occupation of Egypt, I do not find any mention made of it.

The name of the coco-palm in English, French, Italian, Spanish, and Portuguese, is said to be taken from the name for a monkey in the last of these languages, namely, *maíaco*, from the supposed resemblance, of that end of the nut which is marked by three scars, to the face of that animal,—a possible derivation, but certainly a very whimsical one.

The ground-nut, the *Arachis hypogæa* of botanists, is a leguminous plant, at present much cultivated in some places for food; but far more generally for its abundant oil in many parts of tropical Africa, Asia, and America. It seems to be a native plant of Africa, carried, in comparatively very modern times, to the tropical parts of America. Its culture is hardly known in Continental India, in the languages of which I can barely find a name for it. The Hindus of Upper India call it *Chini-báddam*, literally, "the Chinese almond", evidently a fabricated name of modern imposition. But among the islands of the Malayan and Philippine archipelago, and away from the seacoast, where the coconut palm does not flourish, it is largely cultivated, as in the interior of Java, where it forms the chief source of esculent oil, and where it seems in a good measure to have superseded the less productive *sesame*. In the Malay and Javanese languages, it is generally known by the name of *cachaug-tanah*, which literally signifies "ground pulse", taken from the peculiar habit of the plant of maturing its seed under ground. But it also goes under the names of Japanese and Chinese pulse, and not improbably it may have been first cultivated in the Malayan countries by one or other of these nations; for both frequented them when Europeans first traded with them.

In the most current language of China, the ground-nut goes under the name of "the vegetable of long life". It has been immemorially and extensively cultivated in the southern provinces for its abundant oil, and we may, therefore, presume it to be a native plant of China as well as of Africa.

Into tropical America, and its islands, it was probably introduced direct from Africa along with African slaves. The

seeds chiefly used for oil make the ground-nut a valuable acquisition to warm and hot countries, which are always deficient in animal oils. They are at present an object of import into this country for crushing.

The castor-oil plant, or *Palma Christi*, is an object of cultivation from the equator up to the thirtieth degree of latitude. The genus of plants to which it belongs, the *Ricinus*, consists of seven species; and the oil-giving one, *Ricinus communis*, sports into several varieties. It is usually considered to be a native of Asia, but has spread to tropical and sub-tropical Africa and America. Corresponding with the many countries of which it is a native, or in which, at least, it has been immemorably cultivated, it bears many names. Thus, in Sanskrit we have it as *arand*, of which the *and* of the Hindi is an obvious corruption. In Tamil, it is called *amunak*, in Persian, *garchek*, and in Malay, *jarak*. The medical properties of the oil of the *Palma Christi* are known to, or at least availed of only in Europe. In the countries in which it is cultivated, it is used as a burning oil only. In tropical Asia, it takes the place, for this purpose, of the olive, and is largely cultivated as far west as Persia.

The African palm, named by botanists *Elais Guiniensis*, affords a valuable and abundant supply of oil by the crushing of its seeds, which are of the size of an ordinary plum. It seems to be confined to the western coast of tropical Africa. Some notion of the importance of this commodity may be formed from the fact, that a few years ago it was known only as contributing to the food of the barbarians of Africa, while it is now imported for the lubrication of European machinery, and the manufacture of soap, to a great extent; so that the manufacturers of Europe may be said, without being themselves in the least aware of the good they are doing, to have contributed more, by the encouragement given to honest industry, to the civilisation of Africa, than treaties, squadrons, or even missionaries.

The seeds of flax, of the poppy, of a species of tea, and of various cruciform plants, such as the rape and mustard, furnish large supplies of oil for economical uses; but as the plants themselves are considered in their respective places, under their appropriate heads, it is not necessary to treat of them in this paper.

X.—*Some account of the Island of Teneriffe and its Inhabitants, at the time of the Spanish Conquest; taken from the "History of the Discovery and Conquest of the Canary Islands, by George Glas; and the "Histoire Naturelle des îles Canaries," by Barker Webb and Sabin Berthollet. By Miss HAIGH.*

[Communicated by Sir John Lubbock, Bart.]

[Read March 10th, 1868.]

THIS island was named Thenerife, or the White Mountain, by the natives of Palma: "Thener," in their language, signifying a mountain, and "Ife," white, the Peak of Teneriffe being always covered with snow. This name has been continued by the Spaniards ever since; but the natives called it Chineche, and themselves Vincheai.

According to tradition, the whole island had formerly been under the rule of one sovereign, but at the death of Tinerfe the Great (about a hundred years before the arrival of the Spaniards) his nine sons divided it into as many independent principalities, the chief of each of which bore the title of Mencey, or lord. Of these nine Menceys, the chief of the province of Tahoro was considered the most important, and bore the additional title of "Quebehi," or majesty.

The name Tahoro seems to be a corruption of the word Tagoror, by which was signified the place where the Guanches assembled to hold counsel, to execute justice, and to celebrate their great feasts. Each Mencey had his own especial Tagoror; but the most important deliberations were always held in the great Tagoror of Aurotapala, in the dominion of the Mencey of Tahoro. At the coronation or installation of a new Mencey, the Tagoror was adorned with branches of palm, the ground was strewn with flowers, and crowds of people came from all the neighbouring valleys to be present at the ceremony. The Mencey was seated upon a stone, cut into the form of a chair and covered with skins: one of his nearest relations then presented to him a sacred relic—the bone of the right arm of the chief of the reigning family. This was regarded with the greatest veneration, and was always kept in a leather case.

This the Mencey kissed, and then raising it above his head, pronounced the oath of installation: "I swear by the bone of him who has worn this crown to follow his example, and to make my subjects happy." Then the chiefs in order of seniority

took the bone from the hands of the Mencey, and placed it in turn upon their shoulders, saying, "We swear by the day of thy coronation, to be the defenders of thee and of thy race."

Viera says that it was not upon the royal arm bone that these oaths were taken, but upon the skull of one of the ancient princes.

After this ceremony the Mencey, crowned with laurel and flowers, invited all present to share the feast, and games and dances were carried on by torchlight through the night. In time of war, hostilities were suspended, in order that nothing might interrupt the festival, of which all the expenses were defrayed by the Mencey.

Justice was administered and punishments were inflicted in the Tagoror. Robbers were beaten with the staff of the prince, whose duty it was afterwards to see that the wounds thus caused were properly dressed; children who had insulted their parents were stoned; murderers were put to death: and adulterers buried alive. Women were treated with great respect; the law ordained that if a man met one in the road, he must stand aside till she had passed, without speaking to her. The Guanches were not permitted to have more than one wife at a time, but they might divorce her when they pleased, and marry another.

There was an order of hereditary nobility, named *Sigönes*. The tradition of their origin was this—"At the beginning of the world God created a certain number of men and women, and gave to them the flocks that were necessary for their subsistence. Afterwards he created some others, to whom he gave nothing. When they demanded their share, God said to them, 'Serve the others, and they will give you what you need.' This was the origin of masters and servants—in other words of nobles and common people." In this order of nobility the Menceys, as entirely princes, held the first rank; next to them were the Archimenceys, or members of the royal family; then the *Sigönes*, who were the great vassals of the Menceys, commanded in times of war, and had places in the Tagoror or tribunal of justice. The *Achicaxna*, or mass of the people, were serfs, who cultivated the land, and attended to the flocks of the princes. All the land of the island belonged to the Menceys, who gave it to their subjects at pleasure; but these gifts were only temporary, as at the death of the possessor the land reverted to the Mencey.

The inhabitants of Teneriffe lived principally in the caves, which are very numerous, among the volcanic mountains. In the winter they preferred those situated near the coast; but in the summer those in the higher parts of the interior of the

island, whence they could enjoy the fresh air of the hills. Many of these caverns still exist: some of them appear to have been almost entirely excavated by the hand of man. Of these, the largest are in the district of Guimar, and are called by the people "*Cuevas de los reyes.*" They are all situated along the site of the same ravine: some of them are divided into several square apartments, of which the principal only communicates with the external air; the others seem to have been used as sleeping chambers or storehouses for provisions. Benches have been cut in the rocks all round the principal room, and there are also deep niches, made to contain vessels of milk or water.

Viera says that the Guanches had also houses built of stone, and thatched with straw or fern. They were very ingenious in constructing fences of reeds, ropes and nets of rushes, and baskets, mats, and bags of the leaves of the palm tree. Their other utensils were vases of clay or of hard wood, needles of fish bone, and thread made of the sinews of animals. They made beads of a reddish brown earth, which were pierced and strung together for necklaces. They excelled greatly in tanning, and in all that relates to the preparation of leather, of which most of their garments were made. The men wore cloaks of goat's skin, dressed and softened in butter; those of the women were longer, with petticoats of the same stuff underneath. These were often dyed of very brilliant colours, and were quite equal to the best morocco leather of the present day. They do not appear to have had any money, as the artisans were paid for their labour in flesh, barley, or roots. They had no iron or other metal, and instead of instruments made of these, they used a black hard stone sharpened and made fit for killing sheep, cutting and working timber, etc.; these they called *Tavonas*.

They had often disputes about their flocks and pastures, which frequently ended in wars. Their offensive weapons were the mace or "*magado,*" axes, of which the cutting part was made of obsidian; long spears called "*anepa,*" made of wood hardened in the fire and very sharp; javelins, which they threw with great skill; and a sort of dart called the "*banot,*" which was much dreaded, as its barbs were easily detached, so as to remain in the wound when the handle had been withdrawn. They began a battle with showers of stones, thrown from slings, before they fought hand to hand. They had shields made of the bark of the dragon tree; but they were accustomed to fight almost naked, with the "*tamarck,*" or cloak wrapped round the left arm.

When an enemy approached, they alarmed the country by raising a thick smoke, or by whistling, which was repeated

from one to another. This latter method is still in use among the people of Teneriffe, and may be heard at an almost incredible distance.

The Guanches were very neat and cleanly : they washed whenever they arose from sleep, when they sat down to eat, and after they had eaten. After eating they did not drink for the space of half an hour, as they thought that drinking cold water immediately after eating warm victuals spoiled their teeth.

Their food was the flesh of goats and sheep ; kids and wild rabbits were regarded as great dainties—these they ate alone, and not like the Europeans with the addition of bread and roots. The meat was either boiled or baked in a hole in the ground, above which a fire was lighted. Their repasts always concluded with “gofio.” This was made of barley toasted, then pounded between two stones, and mixed with a little water. They sometimes added to it milk or the juice of the palm, or of the “mocain.” “Gofio” was used in all the Canary islands at the time of the Conquest, and it forms a principal part of the food of the lower classes at the present day.

They cultivated several different sorts of fruit trees ; especially date palm, fig trees, the “vicácaro,” the fruit of which is not unlike the fig ; the arbutus, of which the berries are much larger and sweeter than those of the European species ; and the “mocan” (*Visnea Mocanera*), which they prized most of all, as they made a sort of drink of the fermented juice. This was called Chacerquen ; and from the mocan they also extracted an astringent liquor, which they used for dressing wounds.

The sea all around Teneriffe abounds with fish, and the Guanches had several modes of catching them : they waded into the water carrying torches, and harpooned the fish which were dazzled by the light, and sometimes they threw the juice of the *Euphorbia piscatoria* into the pools left among the rocks by the retreating tide : this had the effect of stupefying the fish, so that they were easily caught ; and they were afterwards soaked in fresh water to take away the bitter taste. They fished also with nets and with the line ; but they had no boats, and Berthelot says that they were unable to swim. This seems very strange, amongst a people so active and so fond of athletic exercise ; and it is the more surprising, as the inhabitants of the other islands could swim, and those of Grand Canary were said to be able to drive shoals of small fish ashore. None of the inhabitants of any of the seven Canary islands had any boats, canoes, or any means of communication with any other island. All authorities seem to agree in saying this, and it is most extraordinary, as from each island one or more of the others is

visible; and their language, though differing in each island, was sufficiently alike for the inhabitants to be mutually intelligible when they were brought into communication with each other at the time of the Spanish Conquest. The language of Teneriffe varied more than any of the others; but it had many words in common with that of Grand Canary, and Berthelot gives a list of words, chiefly names of articles in common use, that were alike in all the islands. Both Berthelot and Glas consider that the language spoken in the Canary Islands is like the Shillha or Schellouk, a dialect of the Berber; but the list of words that they give in support of this opinion is too long to quote.

The people of Tenériffe worshipped one God, whom they called by names which signify the Sustainer of the Heaven and the Earth: the Great, the Sublime, the Sustainer of all. They did not worship idols, and had no image of the Deity. I cannot find any mention of priests or religious orders among them; in Grand Canary there was a "Faycan" who seems to have been a sort of high priest, and there were also sacred virgins called "Harinaguadas," who officiated on great occasions, processions, etc.; but the only rite or ceremony in Teneriffe to which I can find any allusion is this, that "when children were born they were washed all over with water by women set apart for that office, who were virgins and were never allowed to marry." (Glas, p. 148.) They had a custom that when one person went to the house of another, he did not attempt to enter in, but sat on a stone at the door, and either whistled or sang till some one came out and desired him to enter. Whoever did not observe this ceremony, but entered into another person's house without being invited, was liable to punishment, as they reckoned it a very great offence.

Almost all great feasts and public rejoicings were concluded with wrestling matches and sham fights, which took place upon a raised platform, arranged so that the combatants might be easily seen by the whole multitude. At each end of this arena were placed two large flat stones about two feet long: beside these stones the two champions who were about to fight were posted, each armed with a certain number of pebbles, a long lance, and an axe of sharp stone. Without moving his feet from the place he had taken, each tried to parry the stones flung by the other, and so active were their movements and so quick their eyes that they seldom failed to do so. After this preliminary skirmish, they went into the centre of the arena and fought with axe and lance till one of the combatants was disabled, or till the chief of the Sigöñes interposed, and ended the battle by calling out the words "gama, gama" (enough, enough).

Their wars were generally respecting the boundaries of their land and pastures; the women attended upon these occasions, and, in case any of the men were killed, carried off the dead and interred them in caves. When any person died they preserved the body in this manner; first, they carried it to a cave and stretched it on a flat stone, opened it and took out the bowels; then twice a day they washed the porous parts of the body with salt and water; afterwards they anointed it with a composition of sheep's butter mixed with a powder made of the dust of decayed pine trees, and a sort of brushwood called "Bressos," together with powdered pumice stone, and then dried it in the sun for fifteen days, during which time the relations of the dead sang his praises and abandoned themselves to grief. When the body was thoroughly dried, and had become very light, it was wrapped in sheep skins or goat skins, girded tight with long leather thongs, and carried to one of the sepulchral grottoes, generally situated in the most inaccessible parts of the island.

The bodies were either upright against the sides of the cavern, or side by side upon a kind of scaffolding made of branches of juniper, mocan, or other incorruptible wood. The Mencey could be buried only in the cave of his ancestors, in which the bodies were so disposed as to be recognisable. Particular persons were set apart for the office of embalming, each sex performing it for those of their own. The bodies were cut open with knives made of sharp pieces of obsidian; these were called "Tavonas," and were also used in surgery.

About twenty sepulchral caves are said to have existed in Teneriffe; some of these have been discovered, but at long intervals, and generally by accident, as the entrances were carefully concealed. A large one, containing more than a thousand mummies, was discovered in the district of Guimar in 1770. One in the neighbourhood of Tacoronté was found accidentally by some orchilla gatherers about the beginning of this century, and most of the mummies in European museums have been brought from one or the other of these catacombs. Another was discovered in the interior of the island during the summer of 1867 by two goatherds, but unfortunately these men, out of mere ignorance and mischief, broke and destroyed everything, rolled the mummies down the hill side, and burnt the wooden scaffolding upon which they were laid, and the "walking sticks," which were probably the "tezzezes" or "magados" mentioned before. Their account (I do not know how far it may relied upon) was that in the outer cave the mummies were all laid upon pieces of wood, some side by side, and some one above the other;

and that in a small inner cave they found three mummies placed apart from the others—a man, a woman, and a child—but everything was destroyed and broken, and only a few fragments of no particular interest could be collected, and saved from the general wreck.

Observations made upon the mummies found in the other caverns seem to prove that the Guanches had different modes of embalming; varying according to the rank and wealth of the individual. Some bodies are found wrapped in as many as six envelopes, while others are merely sewn in a single goatskin. These skins are tanned, and appear to have been damp when wrapped round the corpse, as they retain their shape even after the destruction of the body around which they had been folded. Some of these leathern shrouds are beautifully tanned, made in several pieces, and sewn together with the greatest neatness; the thongs that bind them together are made of the same material, and are sometimes fastened with a hook made of bone or of goat's horn. They are all of a reddish brown colour.

The sex of the mummies is indicated by the men having their arms extended straight by their sides, while those of the women are crossed in front. Among the mummies found in the grotto of Tacoronté, was one of an old woman, which had been dried in a sitting posture, like that of the Peruvian corpses. The head was covered with a hood, and was in good preservation; the cheek bones were high and projecting, the forehead narrow and wrinkled, the nose small, and the mouth wide.

In general the Guanche mummies are found in perfectly good preservation; the flesh has become of a brownish colour, but the form almost unchanged; the teeth are always perfect, and extremely white; the eyebrows and features are quite distinguishable; the hair remains upon the head and the beard upon the chin. Many individuals have very long hair, of a light shade of brown, almost approaching to red. The inhabitants of the northern part of the island were said to have been of a much fairer complexion than the others. A number of the little beads made of baked clay, of which the Guanches used to make necklaces, have been found in the sepulchre, but except these and the "walking sticks," I cannot find any mention of implements being buried with the bodies.

The Guanches do not appear to have been by any means exterminated, but rather to have become gradually mixed with and absorbed by the conquering race. In the districts of Guimar, Candelaria, Fasnea, and other parts of the south of the island, Guanche customs and Guanche blood have their principal stronghold. The names of many of the families, the popular dances, the manner of procuring fire, of milking goats, of

preparing butter and cheese, and of grinding corn, are all the same as those of the ancient inhabitants. The earthenware vases made at Candelaria are the same as the ancient "ganigo." The mode of fishing by poisoning the waters left in pools by the retreating tide is still in use, and the plant used for the purpose retains its ancient name. Many people still inhabit caverns, divided into compartments by slight walls made of reeds; they have large flocks of goats and sheep, and the shepherds still excel in throwing stones at a mark; they can catch the goats upon the steepest hill sides, and carry a long staff like the ancient "tezzezes", which they use as a leaping pole. The wrestling matchés are still carried on as they used to be, but now they are presided over by the alcalde and the priest of the parish, who, like the ancient "Sigoñes," interpose their authority to settle disputes and terminate the combat. Finally, I may mention that a very popular doctor in Santa Cruz, and a servant of the Governor, said to be the tallest man in the island, came from the districts above mentioned, and are both of Guanche descent.

XI.—*On the Ethnological Position of the Guanches, as dependent on their Philological Relations.* By HYDE CLARKE, Fellow of the Ethnological Society, of the Royal Society of Northern Antiquaries, Member of the German Oriental Society, of the American Oriental Society, of the Academy of Anatolia, of the Philological Society of Constantinople, etc.

[Read March 10th, 1868.]

THE remains we have of the languages of the Guanches are imperfect, but they are sufficient to show their affiliation with the races of North Africa. These remains consist of various words in the dialects of Lancerota, Canary, and Teneriffe, showing dialectic differences, which appear to be slight, after allowing for variations between transcribers. Unfortunately, these remains are particularly deficient in primary characteristic roots, which are most valuable for determination; but they include a considerable number of words of secondary class, indicative of culture or civilisation. The existing words have long since been identified as belonging to the North African or Atlantid languages, particularly to the Shiluh, as shown by Ritter. There are general and continuous affinities between all these languages, as the Berber, Tuaric, Shiluh, Showiah, and Siwah.

The chief characteristic root in Guanch is "water," *ahemon*, repeated in the other languages as "aman," in Coptic as "moon" or "man." It is this Coptic word which connects it directly with the Semitic group. The relationship of the Guanch words for *barley, palm-tree, green fig, sticks, house, hog, mountain, valley, and sky*, is very close, particularly with Shiluh.

It does not necessarily follow from these facts that the Guanches, at the time of European discovery, were all of Atlantid race, or were of Atlantid race at all; but they do prove that there must have been an Atlantid dominion at a time anterior to the European, which may represent that of king Juba. It may be that the aborigines, anterior to this conquest, were of another race; but there must have been an extensive immigration of Atlantids, at all events sufficient to supersede any anterior language, though it may be the aboriginal blood survived. This consideration may suggest the cause of variations among the tribes, and even be the cause of those political disagreements

found among the natives on their rediscovery. At all events, the Canaries have been a seat of the Atlantids.

A question arises, What are these North African or Atlantid languages? The least examination by an unprejudiced person shows that their affinities are Semitic. The great Semitic scholars, nevertheless, reject the claim, and their opinions greatly influence ethnologists. M. Rénan does not include them in his great work on the *History of the Semitic Languages*, and, I know, does not intend to admit them. In my opinion there is no philological evidence for this rejection. M. Rénan and his colleagues affirm that the rejected languages have not the distinctive peculiarities of Semitic grammar. Were this true, it would be no sufficient reason in the presence of the conformity of roots; but, as has been shown by Mr. F. W. Newman and others, as to Berber, at all events, there is a great conformity with Semitic structure. The real reason is one not philological at all; which is, that it is very inconvenient for purposes of ethical and psychological theory to admit races which are inferior in civilisation to the high Semitic races, when these are claimed to be the authors of civilisation; or to admit even civilised races which are polytheistic, as monotheism is claimed as a distinguishing characteristic of the Semitists. Coptic is, therefore, excluded by them as a matter of necessity.

The conformity of roots has, likewise, been contested; but this has been from a want of sufficient regard for philological evidences, and Mr. Prichard is guilty of this. The first fact is the conformity of numbers; and I venture to assert, as a general law, that numbers present one of the best tests, after allowing for the influence of dominant races, as in the cases of the diffusion of Sanskrit numbers among now Indo-European inhabitants of India, and of Arab numbers in Africa. Such interpolations are always supplementary and not primary. The numbers in question exhibit as great a conformity as in that class with which we are best acquainted, the Indo-European, for their divergencies are not greater.

With regard to what are really primary roots, I am far from convinced that we have arrived at a satisfactory solution. The discovery of cavemen induces me to suggest a modification of our views on that head. It appears quite as likely that the parts of the body are taken from animals captured in chase, as from man; and if so, we may expect confusions as to arm and leg, hand and foot, such as we find. What would be primary articles of food enter into this consideration, and these would not be the articles of early Indo-European civilisation. Certain tools, suitable to cave and seashore life, would have

precedence over others, which have since obtained a greater use.

Looking, however, to the primary roots involved in this investigation, I do not find a greater divergence than in Indo-European, Malay, or any well-defined class of what is called Turanian. With regard to secondary roots, we must expect a divergence consequent on the various modes of culture and of geographical position. This remark is worthy of observation, that those best acquainted with the rejected languages, or with general philology, are those who most strongly maintain the relationship, and that this is rejected by those who are pure Semitic scholars.

In this contest the Semitists have, on the whole, had the preponderance; and the greatest stretch of boldness on the other side is to establish a sub-Semitic group. To me it appears that no opportunity should be lost in protesting against the erroneous scholarship which restricts the Semitic race to the northern members, and excludes the Copts and Atlantids; for a non-recognition of the due bounds of the Semitic race does great prejudice to ethnology and philology. With regard to the ethnological relationships, or diversities, between the members included in the group, they are not greater than in the Indo-European, Malay, Turkish, or African; and our inability to offer a right solution for these, is no sufficient ground at present to resist the classification. It is no more necessary to assert that Arabs, Copts, and Berbers are identical, than it is to assert that Hindoos and English are identical; and yet we have sufficient grounds to associate these, and divide them from other classes. By asserting the classification of the Semitic race in its several members, we get a better appreciation of its phenomena,—we recognise its African origin and northern and western extremities, and we ascertain the cradle of its historic civilisation. We find evidences of its having advanced westward to the Canaries,—of its efforts to dominate Central Africa, and of its attempts to extend itself to the north. To all of these efforts there were limits, notwithstanding powerful empires were established in Asia and on the Mediterranean.

While we are able to recognise the migrations into Asia, Sicily, Sardinia, Corsica, and Spain, we are still uncertain as to the earlier attempts on Europe. The endeavour to connect the Iberians with these African or Semitic races is futile. The Iberians must no longer be regarded simply as in connexion with Spain, but as I have already shown them, in Western Asia Minor, Greece, and Italy. There is no linguistic evidence in favour of the connexion; and the Iberians appear rather as a parallel race, resisting Semitic advance, until succumbing to

Indo-Europeans. The Ligurians have been suggested; but we must learn more of this remarkable people.

In referring to the subject of the northern migrations of the Africans, I beg to make a note on some comparisons of the Absné, a language of the Caucasus, with Fertit, Falasha, and Agaw of north-eastern Africa, languages of the Abyssinian region.

	ABSNÉ.	FERTIT.	
Man	katsha, kacha	koshi	ngardshi Agaw
Head	kah	kummu	
Eye	ullah	allah	ili Fastaha, Agaw.

There is not by any means sufficient here to work upon, and the bulk of the evidence is negative; but as the Absné constitutes an abnormal branch in the Caucasus, it may be useful to record this note.

XII.—*On the Malayan Race of Man and its Prehistoric Career.*
By JOHN CRAWFORD, Esq., F.R.S.

[Read March 24th, 1868.]

THE Malayan race is the prevailing one in the Malay and Philippine Archipelagos, or from the nineteenth degree of north to the tenth degree of south latitude, and from the ninety-fifth to the hundred and thirty-fifth degree of east longitude. Its home is an insular region throughout, and its islands have been computed at no fewer than 6,000, including some of the largest in the world.

The physical form of the Malayan race of man may be briefly described. It is of short stature, the average height of the male sex not exceeding five feet three inches, which would be four inches short of that of Europeans. The face is lozenge-shaped, with a flat forehead, high cheek-bones, a prominent large mouth, and thin lips. The hair of the head is always black, coarse, lank, and abundant. The hair of every other part of the person, the beard included, is very scanty. The skin is soft, and of a brown colour of various shades, but never black. The lower limbs are heavy, and the whole person squat and deficient in agility.

In this attempt to describe the physical characteristics of the Malayan race, I take no account of the form of the skull, because I am thoroughly satisfied that the most skilful cranio-logist would not be able to distinguish it from the skull of a Chinese, of a Tartar, of an Esquimaux or, indeed, of any other race of man having a low-bridged nose.

The only considerable deviation from the type thus described is to be found in the nude inhabitants of the many isles which lie between Celebes, on one side, and New Guinea and the continent of Australia on the other. Within these bounds we find a different race, with which the stature and the general physical form is the same as with the Malayan race, while the complexion is darker, and the hair of the head, although not woolly, is frizzly and not lank. The difference between them and the usual Malay type is not, perhaps, greater than that between the various nations of Europe or different tribes of the Red man of America, or different tribes of African Negroes.

It was for the modification of the Malayan race thus de-

scribed, that the late learned Dr. Prichard invented one of the two new varieties of man, which he added to the five original ones of Blumenbach, his other added variety being the *Hot-tentot*. The new variety and the name he gave to it were mistakes. The latter is variously written—*Alfora*, *Alafora*, *Arafora*, and *Halafora*. Dr. Prichard supposed it to be modifications of a native term; but it happens to be Portuguese, composed of the Arabic articles *al* or *el*, and the preposition *fora*, without; and was simply a general denomination given by the Portuguese, when they were supreme in the Moluccas, to all the native inhabitants who were out of the pale of their own authority. This was the same thing as creating a new race out of the *Indiaos bravos*, or native American tribes independent of the Spanish authority.

The Malayan race of man is found to be in very different social conditions, varying with the opportunities of advancement possessed by the different tribes and nations composing it; some being mere nomadic savages; while others have made a respectable progress in the useful arts, and are possessed of letters, their own invention.

The condition of society in the Malay and Philippine Archipelagos bore no inconsiderable resemblance to that of America and its islands, when both were first seen by civilised man. In each the race of man was nearly the same throughout, the greater part of both regions being inhabited by savage or rude men, while a more advanced civilisation was restricted to a few favoured choice localities. Languages, too, were proportioned in extent, probably as numerous in the Asiatic archipelagos as in America itself. By far the greatest progress, however, had been made in the Asiatic archipelagos; for their advanced nations had discovered iron and letters, and both Malays and Javanese were, in all respects, far in advance of Mexicans and Peruvians. At the same time, nature was more propitious to the Malaysians than to the Americans, for it supplied them with a greater variety of valuable products for cultivation, and with more valuable animals for domestication; while it gave them the benefit of an intercourse with strangers more advanced than themselves, an advantage from which the most favoured Americans were wholly excluded.

But these were not the only advantages which the Malayan race possessed over the American. While the greater portion of America was a continent difficult to traverse; the region inhabited by the Malayan race consisted of sea-girt islands which, by favour of the periodical winds, could be ranged to and fro without serious difficulty. It followed from this that, while the distant nations of America were found

ignorant even of each other's existence, the productions of one portion of the Malayan region were interchanged, and even one language adopted for intercommunication.

At first view, it might seem that the Columbian Archipelago, Antilles with its large and fertile islands, would have proved a field of social development similar to that of the Asiatic islands; but such was not the case. The reasons are obvious. Like the continent, and in a greater degree, the islands were deficient in the vegetable and animal products which minister to the advancement of civilisation. They possessed but one cereal and no pulse, and their inhabitants had to subsist on the meaner foods of roots and fruits; and they had no animal amenable to domestication, whether for food or for labour. Besides these disabilities, the American islands wanted the periodical winds, which gave facility to the infant navigation of the Asiatic islanders. The result was that, while productions, language, arts, and even religion, were widely disseminated among the Asiatic islanders, the people of the American islands were generally ignorant of each other's existence, and had not yet invented "the sail," familiar even to the islanders of the Pacific Ocean.

The main causes which have promoted social progress with the Malayan race, consist of fertility of soil, including abundance of water for irrigation,—open land unencumbered with forest, and access to water-communication. Those which have obstructed development are the converse of these—sterility of soil, imperfect command of water for irrigation, and land covered with a forest, the disencumbrance of which would be impossible to the feeble efforts of man in his early attempts at advancement. To these causes may be added, communication with strangers in a more advanced stage of civilisation than the native inhabitants.

These causes have given rise to the various phases of social condition which prevail over the two archipelagos. Where the inauspicious conditions have been in operation, the race will be found little, if at all, above the savage state; while under the more auspicious, a considerable measure of civilisation has been reached, that measure being in proportion to the advantages possessed by the respective localities.

The possession of written language, wherever it occurs, as an independent indigenous invention, may be considered as marking the highest civilisation which has been reached in a specific locality. The invention of written language always, with the Malayan race, alphabetic and syllabic, and in no instance symbolic, has been made only in large islands, and never in small ones,—not even in large ones wanting the

favourable conditions which I have indicated. It has been, in fact, confined to three islands of the Malay Archipelago, and to one of the Philippine—namely, Java, Sumatra, and Celebes for the first, and Luçon for the last. There is no evidence of alphabetic writings having ever been invented in the great islands of Borneo, Mindano, or in the Malayan peninsula, all of them forest-clad lands deficient in fertility. Some of the people of the smaller islands, however, it should be noticed, have adopted the inventions of their larger neighbours. Thus, the people of Bali and Lombok have adopted the alphabet of Java; the islands of Bouton, Muna, and Salayar, the alphabet of Celebes; and the most considerable islands of the Philippine archipelago, the alphabet of Luçon.

Java, besides its current alphabet, appears to have invented others which are now obsolete, and the existence of which is known only by ancient inscriptions. In Sumatra no fewer than four separate alphabets were invented, independent of that in which the Malay language was written, before it was superseded by adapted Arabic letters on conversion to Mahomedanism. The island of Celebes produced but one alphabet, and the great island of Luçon also but one.

The invention of writing may be considered satisfactory evidence that the localities in which it took place possessed pre-eminent natural advantages. Among these favoured localities—from which improvement, to a greater or less extent, has been disseminated, not among the tribes of the Malayan race alone, but by silent means to distant and strange races of men far beyond the limits of the Archipelagos—Java is the most remarkable example, and I shall briefly describe the character of this fine island. It is about half the size of Britain, and of volcanic formation throughout. It is long in proportion to its breadth, so that no part of it is remote from the sea. A mountain backbone runs through its whole length of 700 miles, the peaks of which (all either active or dormant volcanoes) rise to heights ranging from 6,000 to 12,000 feet. This great range, precipitating the rain of passing clouds, produces abundant perennial streams, which, watering the rich alluvium of the plains, valleys, and mountain acclivities, makes Java one of the most fertile countries in the world.

In the favoured land of Java, then, there arose an independent indigenous civilisation, the highest yielded by the Malayan race. Immemorially, the Javanese have cultivated one cereal of the first class, several cereals of an inferior kind, pulses, roots, and good fruits, and have been in possession of all the domestic animals known to continental Asia, save the ass and camel, unsuited to their country, and the elephant, which is not

a native, and could not well have been imported. Of equal antiquity is their knowledge of pottery made by the lathe, of textile fabrics, of the precious metals, of iron, and of tin. With the exception of a very small number of exotics, all the objects now enumerated are expressed by native terms, or at least by names which are most naturally traced to the Javanese language, as their native origin.

The Javanese language is the most copious of all the insular tongues, and, independent of what it has received from foreign sources, contains a considerable body of native literature. It consists of three divisions,—the vernacular; a factitious dialect employed, orally and in writing, by inferiors addressing superiors, much like the ceremonial language ascribed to the ancient Aztecs; and an ancient tongue, existing only in a few manuscripts, or in inscriptions on stone and bronze, and now obsolete. These divisions of language are written in various modifications of the same alphabet, one which is perfect for its own purpose, since it has a character for every sound in the language; while differing, as it does, in form and in arrangement, from every other known alphabet, it may safely be pronounced a native invention.

The Javanese, like the Hindus, have no authentic ancient history, but their language bears internal evidence of their civilisation being both ancient and indigenous. Their chronology cannot, indeed, be carried back further than the end of the twelfth century (A.D. 1195), but at that time their ancient language had been formed; and this contains evidence of a state of society similar to that which existed when the Javanese, at the beginning of that century, became first known to the wide world—and such, indeed, in a great measure, it still continues. The terms connected with the arts are, with rare exceptions, expressed in words of the native language; and this may, I think, be admitted to be satisfactory evidence of an indigenous civilisation.

Although, however, Javanese civilisation be substantially of native growth, it is not without obligations to strangers, and the greatest are due to the Hindus. These converted the Javanese to a superficial Hinduism, at a remote but unknown time. Hindu monuments, chiefly in the form of temples, images, and inscriptions, testify to the prevalence of the Hindu worship and of Hindu art, but they do not carry us, authentically, beyond six and a half centuries back. Language affords not only far better evidence of this connection with Hinduism, but also of the antiquity of Javanese civilisation. The proportion of Sanscrit words in the modern written language of Java is not less than ten in one hundred, and it is still greater in the

obsolete ancient tongue, known as the Kawi. Of this ancient tongue, at least one-fifth part is, at present, obsolete. The loss of so large a portion of a language could not have taken place except in a long course of ages, especially when we take into account that the people concerned are Asiatics, ever slow to change, while the change in this case was the result, not of conquest, but of persuasion and example. The stranger apostles who effected the conversion were, in fact, few in number, and far away from their own country, and hence powerless for the exercise of force.

Besides the Sanscrit which is found in the Javanese, it also contains some words of Arabic, introduced through the conversion of the people of Java to the Mahomedan religion, an event which took place in the last quarter of the fifteenth century (A.D. 1478); together with a few words of the Telinga or Telugu, the language of that nation of Southern India which had traded immemorially with the Malayan Islands, and who were found to be thus employed when the Portuguese made their first appearance in the waters of the Archipelago in the beginning of the sixteenth century (A.D. 1509).

It must be considered satisfactory evidence of the civilisation which arose in Java, that when the Javanese were first seen by intelligent Europeans, who had the capacity to render a sensible and truthful account of their condition, they were a people not only far in advance of the most improved of the islanders of the Pacific, but greatly superior even to the Mexicans and Peruvians, the most cultivated people of the New World. The evidence for this is that their agriculture was such as to enable them not only to feed a dense population, at home, with a cereal of the highest class, but to furnish some of these neighbours with a superfluity of it. They furnished their neighbours, at the same time, with works in the metals, and with textile fabrics.

In the region inhabited by the Malayan race, as in other parts of the world, the number of languages, in its several parts, will be found few in the inverse proportion to the density of population. This is the result of the amalgamation of many primordial tribes by a predominant one, ending in a single nation with one tongue. Java is pre-eminent in this respect; for, although the number of its inhabitants is, probably, greater than that of all the rest of the Malay region put together, its languages are but two in number: and these, although independent tongues, are much intermixed. One of them is the medium of speech of the great majority of its inhabitants, and these occupying the largest and fairest portion of the island.

The second in rank of the insular civilisations is that of the

Malays, and this had its primeval seat in Sumatra, an island three times the size of Java, and by one-half larger than Britain; yet the greater part of it is covered by a deep primeval forest, and its few prairies are deficient in fertility. Its favoured portion is confined to a broad volcanic band which passes through the island, and several of the peaks of which attain the height of 10,000 feet, and are active volcanoes. This small portion is well-watered, contains large lakes, and is not inferior in fertility to Java; while it has the advantage of communicating with the sea, to the north and east, by rivers far surpassing, in size and length of course, those of Java. The volcanic band in question was the hive of the Malayan civilisation, which is of an inferior type to the Javanese, and which, from difference of physical geography, took generally a more diffusive expansion. The Malays have cultivated the same plants, domesticated the same animals, and practised the same arts as the Javanese, much intercourse taking place between them as immediate neighbours, a fact to which a frequent intermixture of language bears testimony. With a narrower field of enterprise at home, and greater facilities of foreign adventure, they issued from their native seat, and became renowned as rovers, traders, and colonists. In common with the Javanese, they were found, when both nations became first effectively known to the civilised world, conducting the internal carrying-trade of the two Archipelagos from one extremity to the other. Besides this, they planted colonies in countries near to them, and formed settlements in more distant ones: of the first of which we have examples on the northern coast of Sumatra itself, on the coasts of the Malayan Peninsula, and on the coasts of Borneo—and of the last as far as the distant Philippines.

The wide diffusion of the Malay people has materially conduced to the wide spread of their language, which has been immemorially the common medium of intercourse between the various nations of the two Archipelagos; but the character of the language itself has largely contributed, for it is a tongue eminently simple in structure, soft in sound, and facile of pronunciation.

The Malay language wants those evidences of an ancient culture which belong to the Javanese. It has no ancient recondite tongue, and, beyond a few words and phrases, no ceremonial dialect; neither has it any ancient literature. The foreign nations who have contributed to promote the indigenous civilisation of the Malays are the same as have done so to that of the Javanese, and the most important contribution has in this case also been made by the Hindus, although in a less degree. While the remains of Hinduism, in the shape of

temples and inscriptions, are numerous and conspicuous in Java, they are rare and unimportant in Sumatra, and indeed, it may even be suspected that they have come indirectly from Java. The Malay language bears the same testimony, for while the Javanese contains about ten Sanscrit words in every hundred, the former contains not more than half this proportion. The Malay however contains, at least in the written tongue, a larger proportion of Arabic words. The Malays, indeed, were the first among the islanders to adopt the Mahomedan religion, which always implies more or less of the language in which that religion was promulgated; and the migratory Malays may be considered to have been, from its first introduction, its chief promulgators.

There is much in common between the Malay and Javanese civilisations, not the result of conquests by either nation (for of this there is neither record nor internal evidence), but of the silent intercourse of many ages, encouraged by vicinity and an easy maritime communication.

Although there be much in common between the Malay and Javanese languages, it should be observed of these two tongues—and the same observation holds good of all the other languages of the tribes and nations of the Malayan race—that they are essentially different and distinct languages. Three-fourths of the words of the Malay and Javanese are wholly different, and these include all that class of words which are indispensable to the construction of a complete sentence, while they do not include any foreign words. The structure of the Javanese and the Malay is, no doubt, simple, and such is the case also with the many tongues of all the people of the Malayan race; but the simplicity is in each case peculiar to itself. The great body of each language may, in fact, be considered the primeval tongue of the rude tribe that framed it, while the additional portion has been the result of a tribal intercourse of many ages.

The influence of the two civilisations which I have now sketched—the Javanese and Malay—has been widely spread over the tribes and nations of the two Archipelagos, and they have, moreover, mutually acted on each other. Thus it will be found, on a comparison of the Javanese and Malay languages, that about one-fourth of their vocabularies are essentially the same, while the remaining three-fourths are peculiar to each and original.

In Sumatra, besides the Malayan civilisation, the dominant one, there are four others—namely, the Achih or Achin, the Batak, the Rejang, and the Lampung—the three last having each of them its own peculiar and separate alphabet; that of

the Achin, like the Malay, has been superseded by the Arabic. The influence, however, of these minor civilisations has never extended beyond the narrow bounds of the people speaking their native idioms, and therefore need not be further considered.

Next in rank to the Malay and Javanese civilisations is that which sprang up in the great island of Celebes. The special seat of this civilisation, as civilisation, is defined by the discovery of written language in the south-western of the four peninsular-like wings into which this oddly-shaped island is divided. The people with whom it originated are those speaking the language which they themselves call the Wugi, and Europeans (taking the name from the Malay version of the word) term Bugi, which with an European plural becomes Bugis. This is also the name of the people themselves. The Bugis, as a people, are at least equal in progress to the Malays, but, like them, have none of the evidences of an ancient civilisation which distinguish the Javanese. They are, at present, the most enterprising of the native nations of the two Archipelagos, and conduct that inter-insular trade which was in the hands of the Malays and Javanese when the Malayan Archipelago became first known to Europeans. This revolution in their social condition is, however, it should be added, of comparatively very recent date; for they are hardly noticed in early European narratives, and have evidently made a great advance in the three centuries and a half which have elapsed since they were first mentioned.

The Bugis alphabet differs in form, and in a great measure in the power of its letters, from all the other alphabets of the Archipelago, and indeed, as far as I know, from all foreign alphabets. It has, in fact, every characteristic of a local independent invention. The language which it represents is also peculiar. It is, indeed, of very simple structure, without inflexions, the words following each other in the natural order of ideas. Every syllable and every word must end in a vowel, the only exceptions being nasals and aspirates, the result of which is the disfigurement of nearly all foreign words naturalised in it—in some cases to such a degree that they are with difficulty recognised.

I may here remark that the Bugis alphabet, in common with most of the other insular alphabets, takes the organic classification of the Hindu alphabets, or is arranged according to the parts of the organs of speech chiefly engaged in their pronunciation—as into labials, dentals, palatals, gutturals, sibilants, and liquids. This order, however, seems to have been established after the invention of the alphabets themselves, and in

imitation, directly or indirectly, of the Hindus, in the same manner as it was borrowed by the dialects of Southern India from the alphabet in which the Sanscrit language is usually written. It does not apply to the Batak, the rudest of the Malayan alphabets, nor to the Javanese, the most perfect, for both of these have rejected the innovation,—the first, perhaps, because the people who used it were incapable of appreciating its merits; and the last, most probably, because they did not find it expedient to depart from their own long-established order, however arbitrary.

Besides the Bugis, two other nations of Celebes—the Macassar and Mandar—speaking separate languages, have attained a considerable amount of civilisation; and these have adopted the Bugis letters, as have done also the people of Bouton, Salayar, and Sumbawa, although there is evidence to show that the people of the last of these islands once possessed a native alphabet of their own, eventually superseded by that of Celebes. Beyond these, however, and the settlements which the Bugis nation has made in the small islands in their neighbourhood, and on the eastern side of the island of Borneo, in the Malayan Peninsula, and in the British settlements in the Straits of Malacca, the Bugis language has had no such wide diffusion as the Malay and Javanese languages, although an isolated word peculiar to it may, now and then, be found in the great Polynesian language of the Pacific, and even in the language of Madagascar.

I come, finally, to the lowest and feeblest of the insular civilisations. This, as already indicated, had its origin in the great island of Luçon, and it is believed with the Tagala nation, one of the four more advanced people of that island. While the Malayan Archipelago has given birth to many alphabets, obsolete or living (in all probability not fewer than ten), the Philippine Archipelago has produced one only, and this a very rude character. As evidence of the crudeness of this solitary alphabet, I may mention that while the Javanese has twenty consonant characters and five vowel marks, and even the alphabet of Celebes consists of sixteen consonant characters and four vowel marks, the Philippine alphabet contains no more than thirteen consonant characters and three vowel marks. One consonant character represents the letters *d* and *r*, and another *f* and *p*, while a dot above a consonant represents alike the vowels *e* and *i*, and one below it equally *o* and *u*.

The island of Luçon, the seat of the civilisation to which I am referring, is nearly twice the size of Ireland—is for the most part of volcanic formation—contains mountains of great elevation, many of them active volcanoes—and abounds in consider-

able rivers and lakes, while its soil is of eminent fertility. Notwithstanding these signal advantages, the most advanced of its inhabitants, when first seen by Europeans (which was a quarter of a century after the discovery of the New World), were of a much lower social status than the Malays and Javanese; and, indeed, they owed a good deal of the improvement to which they had reached to their intercourse with both these nations.

With a land as auspicious as that of Java, and in some respects even superior to it, and far more so than that of Sumatra, the civilisation which arose in Luçon ought to have been at least equal to that which arose in Java and Sumatra; and why it was inferior may, I think, be accounted for by some privations or natural obstacles which contravened its seeming advantages. The people of Luçon and the other islands of the Philippine Archipelago had domesticated the dog, the hog, the goat, the common fowl, and the duck; and in this regard had some advantages over the American nations, yet they were but a shade better off than the South Sea islanders. All the larger quadrupeds fit for effective labour, and possessed by the people of Java, Sumatra, and even of Celebes, were absent; the feeble navigation of the Malayan islanders could not supply them; none of them were indigenous, and it remained for Europeans to introduce the ox, the buffalo, and the horse. Then, again, the Philippines, far away from the Hindus, who aided in the civilisation of the Malays and Javanese, gave no direct assistance to the Philippine islanders; and perhaps, besides distance, the rougher seas which encompass the Philippines may have proved a discouragement to the resort of strangers.

The Tagala alphabet is the rudest of all the writings of the two Archipelagos, and a Spanish writer describes it as "very easy to learn, but very difficult to read." It has been adopted by several of the other nations of the Philippines—by all, indeed, pretending to any measure of civilisation; and this embraces the nations speaking the Bisaya language, including the inhabitants of the most considerable islands, such as Panay, Negros, and Zebu—all fertile and productive, though in a less degree than Luçon.

The Philippine languages have a character peculiar to themselves, and are all of comparatively simple structure, although the simplicity is not carried so far as in the Malay, Javanese, or languages of Celebes; for there is a considerable amount of inflexion in the personal pronouns, and even in the verb. It is especially different from those languages in its phonetic character, containing combinations of sounds which a Malay or Javanese could hardly pronounce, and which, at all events, never occur in their languages. As to the character in which the

Philippine languages are written, I may further say of it that its letters differ, in form and powers, from all the alphabets of the Malayan Archipelago—the Tagala alphabet having, in short, every mark of a rude native invention.

It has been already shown that the highest civilisation attained by the Malayan race originated in the two great islands of Sumatra and Java, and with the people speaking the Malay and Javanese languages. It has also been shown that a considerable portion of these two languages is common to them, yet these words include none indispensable to the construction of a complete sentence—a fact which shows that the common terms are the result of the intercourse of many ages, or that they are adventitious, leaving the two languages separate, original, and independent tongues. The same may, indeed, be said of all the other languages of the Malayan region, and within the wide bounds of which there can hardly be, proportioned to extent, fewer than in Africa and America. Such a thing as a dialect, in the sense of the division of a language, does not, I may add, exist.

The influence of the two higher civilisations—the Malayan and Javanese—has been felt by all the nations and tribes of the Malayan race, being naturally greater in proportion to facilities of intercourse, and diminishing with distance or other obstacles to it. The foreign or extra-insular words contained in the two most cultivated tongues, it should be observed, are always found to accompany them in the ruder language, and this in the same form, and with the same meaning.

The words which convey most clearly the extent of the benefits which the two most civilised peoples have conferred on the less advanced are those connected with the ordinary arts—such as the names of tools, weapons, utensils, and clothing, the names of domesticated animals and cultivated plants, terms connected with agriculture, navigation, and trade, and those relating to government and the division of time, with the system of numeration. With a few exceptions, and with some variations of orthography, the words which denote the objects thus enumerated are the same in the two leading languages.

Two or three examples of the proportion in which the two leading languages have been infused into the minor ones, may be given. The language of the Sundas, a people of Java, divided from the proper Javanese only by an arbitrary line of demarcation, contains in 1,000 words only 400 of native origin, while the remaining portion consists of Malay, and more especially of Javanese, with their foreign ingredients. Thus only two-fifths of its aboriginal tongue remains to the Sunda. The language of the island of Madura—separated from Java by a

strait little more than two miles broad in its narrowest part, and which had been usually ruled by Javanese princes—contains even a smaller aboriginal element, for three-fourths of it are composed of Malay or Javanese, including the stranger elements of these tongues.

The proportion of the two main languages to be found in the Balinese, the language of the small but fertile and populous island of Bali, divided from Java by a very narrow strait, is far larger than in the Sunda and Madurese; for in 1,000 words it contains 550, leaving, therefore, less than one-half of this language aboriginal.

Among the wild tribes of Borneo the most advanced, numerous, and powerful are the Kayans, and of their language, about 1,000 words contain 110 belonging to languages that are not Bornean; and of these 35 are exclusively Malay, and 6 exclusively Javanese, while the numbers common to the two languages amount to 83, leaving 4 which are Sanscrit or Arabic.

In the Bugis, or most cultivated and diffused of the languages of Celebes, the foreign words introduced amount, in 1,000, to 233, leaving the great body of the language an original tongue. The Bugis language, I may here observe, would seem to have exercised an influence over the other languages of Celebes and those of the adjacent islands, similar to that which the Malay and Javanese have exercised over the languages of the nations adjacent to Java and Sumatra; and I consequently find that in the language of the Macassar nation, the most advanced of the people of Celebes after the Bugis and their immediate neighbours, one half is the same as that of the latter people.

The proportion of the two main languages of the Malayan race found in the cultivated tongues of the Philippines decreases with distance from Java and Sumatra. In the Pampango, the language of one of the most advanced nations of the great island of Luçon, it is 63 words in 1,000; in the Tagala it is only 24; and in the Bisaya, the prevailing tongue of the lesser islands of the Archipelago, it is nearly the same, or about 23.

The Sanscrit words, which in greater or less number exist in nearly all the many languages of the Malayan race, demand some special notice. These words are genuine Sanscrit, with hardly any admixture of the vernacular languages of Southern India, that land from which emanated the men who introduced them. They are, moreover, received into the Malayan languages with as much integrity as to sound as the imperfect insular alphabets would allow. From this the presumption is that they were not introduced by conquest, since in that case they would have been communicated orally, and hence in a corrupted form. Indeed, there can be no doubt but that they

were wholly introduced through the medium of the religion of the Hindus, and hence, without doubt, in a written form.

The Sanscrit element was first introduced into the nearest islands to the country of the Hindus, and which were also in all other respects the fittest to receive it, by superior fertility of soil and more advanced social condition. This is further attested by the greater numbers in which Sanscrit words are found in the Malay, and still more in the Javanese language, and their decline as we recede from the localities of these tongues.

In the Javanese the number of Sanscrit words is about 100 in 1,000, in the Malay not more than 50, and in the Bugis of Celebes but 18. In the languages of the Philippines the number is little better than nominal, and they are all the same in proportion, and even the same identical words in all of them. Thus, in the Tagala, the vocabulary of which contains between 16,000 and 17,000 words, the Sanscrit terms amount to no more than 33, while in the Bisaya and Pampango dictionaries the proportion is nearly the same.

I may here adduce one singular example of the manner in which Sanscrit words have been transmitted from the Malay and Javanese languages to the Philippine tongues. The Philippine islanders seem to have but very partially adopted even the imperfect Hinduism of the Malays and Javanese. They named their chief deity Bataala, which, with the exchange of one liquid for another, is the Batara of the Malays and Javanese. This, again, is the Avatara of the Sanscrit, the only alteration here consisting in the elision of the initial vowel and the exchange of one labial for another. In Sanscrit, the well-known word "avatar" means literally "a descent," and, as applied to a deity, "an incarnation." In Malay and Javanese, however, it is an appellative confined to the chief deities of the populous Hindu Pantheon. Prefixed to the word "guru" (teacher or spiritual guide), it is a title applied to the destroying power of the Hindu Triad—that is, to Siwa and Mahedewa, "the great god," for this deity was the chief object of the worship of the Malays and Javanese in their days of Hinduism. The Philippine islanders left out the word "guru," and when the first Spaniards asked the name of the chief deity of their worship, they gave, with a slight corruption, the Sanscrit word for "a descent," or "incarnation."

The image of the god thus worshipped under the name of a Hindu avatar is described by Pigafetta, the companion and secretary of Maghalaens, as he saw it in the island of Zebu, of which the language is the Bisaya. It was "a wooden image, hollow within, having spread arms and legs, the feet turned

upwards, the mouth with four tusks resembling those of a wild boar, and the whole figure daubed all over with paint." The great navigator destroyed the image, baptised the people of Zebu, and gave them an image of the Infant Jesus, which, on the return of the Spaniards, sixty years afterwards, they found miraculously preserved by the relapsed natives; and it still exists in a convent of Zebu, known by the name which comes from the Avatar of the Hindus—namely, Batala, which was the only name for "the Creator" which the language of the Philippines afforded.

What I have endeavoured to show in the course of this essay, and chiefly through the instrumentality of language, is that, contemporaneously with the discovery of the New World, there became known to civilised man an extensive region of the earth, in all essential points almost equally unknown to it. The principal race of man inhabiting this new region was peculiar, and as unknown as the man of America himself. In all respects, the most advanced people of this virtually new region had reached a higher social advancement than the Red man of America, for it had domesticated the larger quadrupeds,—cultivated several cereals,—discovered the art of making iron malleable,—invented written language,—carried on an international intercourse, and at one or two points even maintained some beneficial communication with external nations.

The civilisations which sprang up among the Malayan race are obviously of independent native growth. In extent they are probably commensurate with the endowment of the race with which they originated, and, for aught we know to the contrary, may be of equal antiquity with the civilisations of Egypt or of India; for of their origin the only reliable testimony we can produce is the evidence afforded by the examination of language, for of any record of their past history the people themselves are as destitute, as are bees or beavers of the transactions of their predecessors. But for one race of man, endowed far beyond the rest, and whose enterprises, with few exceptions, were long confined to Europe, one-half of mankind would now be ignorant of the existence of the other half. It is through this superior race alone that they are held even in intercommunication.

XIII.—*Some Changes of Surface affecting Ancient Ethnography.*
By H. H. HOWORTH, Esq., F.E.S.

[*Read March 24th, 1868.*]

THE inquiry into the earlier ethnography of a country is beset with many discouraging difficulties. We cannot hope to obtain the same fixed results that attend the researches into an experimental science, and our conclusions are often but tentative opinions resting on a narrow induction. Our facts are meagre and ambiguous, and the best theory but the resultant of a maze of conflicting evidence, which becomes naturally more puzzling as we recede into the distance of time. It is something in such an inquiry to gain a firm foothold anywhere, and if we consider how many fresh points of view we may obtain from unexpected quarters sometimes, and how strangely fruitful some apparently uninviting questions have proved, the following dry paper may perhaps be excused. The Northern hive was a favourite phrase with the rhetorical historians of the last century. In its unexplored depths a ready resource was at hand for those who were content to confine their criticism to the pale of the Roman world, and who took small interest in the country beyond the Rhine and the Danube, except in the few transactions it held with the centres of culture. It is not to be wondered at, therefore, that men should now have quarrelled with many of the once orthodox theories about the outer barbarians, and that a closer anatomy has made us sceptical of old opinions. Among these we may include, the capacity possessed by a cold, bare, hungry, and now sparsely peopled country to be the overcharged hive which could, at convenient intervals, reinvigorate the enervated blood of an overcivilised and luxurious race, and at the same time relieve itself of a pressure on its food-producing powers. Buckle is not now alone in doubting the fecundity of a race placed under the conditions we now find in Scandinavia.

Before dogmatizing, however, on the subject, it is convenient that we should ascertain that these conditions have not materially altered, and the inquiry may take a somewhat wider range than the area of Scandinavia, and be made to disclose some important matter. We will commence with that region. It is well known that the Roman geographers give us an account of Scandinavia which cannot be reconciled with its present con-

tour. It is equally well known that among the patrons of Pliny and Tacitus there are not a few who at once explain this difference by good-naturedly charging the ancients with mistakes and carelessness. It is argued that the Romans knew little of the country beyond the Elbe. Although they were large consumers of amber, which must have come from the shores of Prussia; although the masters of a maritime skill and enterprise which enabled them to sail round the British Isles, and to coast the distant shores of the Bight of Benin; and although the focus of all the merchandise and traffic of the world, the goal of caravans, of travellers, and of merchants, they were yet so incurious or so ignorant as to make the most lamentable blunders about a very neighbouring region to their homes. It is perhaps a pardonable heterodoxy which refuses to accept such a view, maintained chiefly, as I observed, by those whose superior stand-point enables them to patronise more primitive inquirers. The very modesty with which these ancients parade their ignorance makes me attach greater credit to what they relate.

Pytheas of Marsilles, in his questionable narrative, gives us little about the extreme north of Europe save the name Thule, which is evidently from the context meant for the Scandinavian peninsula, a part of which was afterwards known as Thylemark. He names however an island which he calls Abalus. This Pliny identifies with the Basilia of Timæus. In another place, quoting Xenophon of Lampsacus, Pliny says that at a distance of three days' sail from Scythia there is an island of immense size called Baltia, the same Pytheas names Basilia. This confusion of names in Pytheas is only partially explained by Zeuss in his *Die Deutsche und die Nachbarstämme*; a book which deserves translation, and which, if this Society were to begin a series of translations of ethnological classics, I should recommend for the honour of heading the list. The account of Pliny is given almost in the same terms by Solinus, c. 22.

Again, in another place, Pliny says, "the Codinian Gulf is filled with islands, the most famous of which is Scandinavia, of a magnitude as yet unascertained. The only portion at all known is inhabited by the Hilleviones, who dwell in five hundred villages, and call it a second world. It is generally supposed that the island of Eningia is not of less size." This "Sinus Codanus" is also mentioned by Mela, together with the large island of Codanonia, inhabited by the Teutones.

Ptolemy speaks of four islands east of the Cimbric peninsula, which he calls the Scandian Islands, of which the largest and most easterly is Scandia, extending as far as the mouth of the Vistula. He places several tribes on his large Scandinavian island.

Procopius, writing A.D. 526 to 565, and perhaps only repeating a traditional knowledge, mentions Scandinavia, under the name of Thule, as an island ten times larger than Britain.

From these accounts, in some of which, perhaps, the larger Danish islands are confused with the main land, it is clear that the ancient notion of Scandinavia is that of a large group of islands, a northern Archipelago. If their evidence is to be trusted, the relative proportions of land and water must have altered since it was collected. This practically means that the land must have risen very considerably in the interval. Modern observation has confirmed the fact of such a rise. It discloses to us the gradual rise of the sea bottom of the Baltic and a consequent accretion of land to its shores. It is no new discovery. Celsius, who wrote at the end of the seventeenth century, from the evidence of pilots and others, had concluded that there was a change of level in progress in the Northern Ocean amounting to forty inches in a century. Playfair, in 1802, showed that this must be by the rise of the land. In 1807, Von Buch wrote that all the country from Frederickstadt, in Sweden, to Abo, in Finland, and, perhaps, as far as St. Petersburg, was slowly rising. In 1820 and 1821, a report was presented to the Royal Academy of Stockholm, by the officers of the pilotage service, of their examination of several lead marks cut at several dates on different rocks. From this report it appeared that along the whole coast of the northern part of the Gulf of Bothnia the water was lower than formerly, but that the rate of recession was not uniform. New marks were, at the same time, made. In 1834, Sir Charles Lyell made an elaborate examination of the whole subject, which he published as the Bakerian lecture in the *Philosophical Transactions*. He visited the whole seaboard, and became a perfect convert in consequence to a view which he had previously combated. To this report I am indebted for some of the foregoing facts. In Scania, and in Denmark, he found little evidence of any perceptible change of level, unless it were that of the land sinking. The first unmistakeable evidence was found at Calmar, in 56 deg. 41 min. N. lat. The foundations of the castle there, which had originally been subaqueous, were found to have risen four feet in four centuries. At Stockholm there were found striking proofs of change since the Baltic acquired its present tenants. Testacea found there seventy feet above the sea-level, being identical with those now found in the adjacent sea. At Soderleige, a little further south, and in a bed ninety feet above the sea level, besides the shells were found several buried vessels. These were constructed with wooden pegs. In another place an iron anchor and nails were found. In another, sixty-four

feet below the surface (and apparently showing a great submergence and subsequent upheaval) was found a hut with charred wood on its hearth.

The three lakes of Husar, Ladu, and Uggel, which formerly, *temp.* Charles XI, constituted the Gulf of Fiskartorp, had grown much shallower and in part become dry land. At Upsala, forty miles north north-west of Stockholm, brackish water plants were found in meadows where there are no salt springs. This is abundant proof that the sea has but recently retired. The march at Oregrund, forty miles north of Upsala, had risen five inches and a half in the interval since 1820. At Gefle, forty miles to the north-west, are low pastures where the inhabitants' fathers remembered boats, and even ships, floating. Similar traditions are common in Finland. Experienced pilots in the Gulf of Bothnia estimated the fall of the waters at two feet in thirty years. The extracts from this paper might be multiplied.

In the sixth volume of the *Geological Transactions*, is a short paper by G. Forchhammer, who, speaking of the neighbourhood of Denmark, says the island of Saltholm, opposite Copenhagen, mentioned for fertility in the thirteenth century, is now hardly five feet above the sea level, and almost every autumn is overflowed by the sea. Pomholm rises a foot in a century. It is reported among the inhabitants that Heligoland has been reduced within a century from eleven miles to one, and the Danish peat bogs bear general witness to a depression there going on. In 1853, Sir Charles Lyell summed up the results then obtained. He says, "the known limits of elevation are Gothenburg and Tornea, and thence to the North Cape. In breadth it may extend far into Sweden and Finland." In the northern part of Norway recent swells occur, according to Ström, four hundred feet above the sea level; and along the whole coast such evidence, coupled with that of tradition, is too common to be fortuitous, and it is overwhelmingly conclusive that the rise is not uniform, but increases in rapidity with the latitude. Beyond the limits of Scandinavia we find Mr. Lamont, in the eighteenth volume of the *Quarterly Journal of the Geological Society*, describing his summer's visit to Spitzbergen in 1858 and 1859, and stating that he discovered recent bones and drift-wood several miles inland and high above high water mark, skeletons of whales thirty to forty feet above the sea level. The seal-fishers told him the land was rising, and that the seas thereabouts were now too shallow for the right whale, which had forsaken the Spitzbergen coast.

To the east of Scandinavia we find in the surface of Finland all the characteristics of a recently emerged land, known to the

natives as Suomenia, or the land of swamps; it is sprinkled all over with lakes, separated by flats of sand covered with moss. The level of some of these lakes is rapidly falling, which means that the land is rising, and, *inter alia*, we have detailed accounts of the sudden lowering of Lake Souvando in 1818, and of the escape of its waters into Lake Ladoga, exposing much of its bottom as dry banks. Having shown how general the evidence of upheaval is in the north, we will now shift our view to a distant neighbourhood, which has, however, very near ties with it in an ethnographic point of view.

The ancient geography of Central Asia is no less a puzzle to modern inquirers than that of Scandinavia. Proofs are accumulating on all hands to show how very recent is the separation of the Euxine, Caspian, and Aral. The occurrence of the seal and the sturgeon in these separate seas is sufficient evidence for the naturalist, and the gradual lowering of the waters of the Caspian and the Sea of Aral is matter of notoriety to the physical geographer. The Caspian and the Sea of Aral form two large hollows in a low monotonous plain connected together by a string of salt lakes and brackish pools, and threaded with the winding beds of dried channels, formerly the course of the Oxus and other rivers. North of the Caspian is a continuation of the same picture, hence a broad deeply-indented track of country similarly studded with lakes, connects the Caspian with the Obi, and thus with the Arctic Sea. Pallas, an old but a most safe authority, one of the most careful and observant of travellers, and certainly the first of authorities for the country surrounding the lower waters of the Volga and the Don, gives us vivid pictures of the salt-sown deserts which mark the area of the ancient sea. He tells us, "the Yackian (?) desert, as well as those of the Kalmuchs and the Volga, are covered with shells exactly like those now found in the Caspian. The soil is of a uniform consistence of sand and a yellowish loam, generally impregnated with sea salt, and there is no black soil or turf." In another place, "It is probable that the high country between the Don and the Volga, and along the Sarpa, as well as the heights between the Volga and the Yach, now called Obisher (?) Sert, have been the old banks of the Hyrcanean Sea, for here we meet with horizontal strata, no salt, and plenty of soil and turf. Further up in the mountains are banks of shells, but not like those now found in the Caspian."

"The desert is fifteen fathoms higher than the Caspian, but then the Caspian is itself very low, and the current of the Don is visibly ten fathoms higher than that of the Volga, even when they flow close to one another." Again—"Very probably, nay beyond a doubt, the low country of Ulagami, Ternik, Alabuga,

and Bycloe; is the old bed of the strait uniting the Caspian and the Sea of Azof. Even to this day, the Caspian, when swelled by tempests, easily overflows the low countries just mentioned. The sand hills which intervene between them and the many isles originate from sand banks thrown up by the Caspian. These banks have choked up the mouth of the Kuma, which formerly had a free passage into the Caspian.

"The Don seems, in the days when the Caspian was one with the Black Sea, to have fallen into the sea close to Donetz, the Volga, in the vicinity of Duntrefsk."

These observations of Pallas lead us to attach more credit to ancient accounts of these districts.

It is well known that from the days of Herodotus to very recent times the Caspian and the Sea of Aral were made one by geographers, the usual explanation being that, in the absence of knowledge about this district, one copied from another. In the time of the earlier geographers this junction was probably perfect, the Araxes then flowed into the joint lakes. We notice a stage of desiccation in a statement of Priscus, who accompanied the embassy of Theodosius to Attila, and who mentions the fact that the Huns, in invading Persia, crossed first a steppe, then a *morass*, and lastly the mountains.

Hecataeus supposed the Caspian to be connected with the Euxine by means of the River Phasis.

Strabo refers to this notion as one invented by the geographers of Alexander's expedition, but he himself affords evidence in the size he gives the Mæotis of its probable extension as far east as the mouths of the Volga in earlier days. Polybius even foretold, from changes going on in his day, that it would be speedily choked. Scylax makes it one half the size of the Euxine. Herodotus still larger. The evidence comes down to our own time; for the map of the Mæotis, drawn up by the Russians in 1773, shews, we are told, many banks and tongues of land which are constantly appearing in it. What took place here no doubt occurred also in the low salt marshes of the Volga. It is well known that the ancients connected the Caspian with the Polar Sea. I will only refer to Strabo, who gives us a very detailed account of the neighbourhood of the former sea, and distinctly in the sixth and eighth chapters of his eleventh book, makes it a gulf of the latter one, narrow at its *embouchure* and widening southwards.

We will shift our ground once more, and this time to the South and West of Scandinavia, to the coasts of the German Ocean and the British seas. If Denmark has been suspected to be stationary, if not slowly sinking, there can be no doubt that the sea has been incroaching further south. The Dollart,

the large bay between Groningen and East Friesland, was formed in 1277, and greatly extended in the three following years, one town, thirty-five villages, and several hamlets being overwhelmed. The Zuyder Zee was formerly almost a fresh water lake, communicating by two channels with the North Sea. By several huge incroachments, as in 1230, when one hundred thousand men perished; 1287, when eighty thousand are said to have been destroyed, these channels of communication were multiplied. In 1395, great ships could sail to Amsterdam. In 1470, 40,000 men were drowned, chiefly in Friesland, and in 1570, an equal number in that province, the water rising six feet above the dykes, in 1686 it rose eight feet above the dykes, and converted Friesland into a sea; in 1717, another great flood laid the town of Groningen several feet under water, and destroyed 12,000 men. The Zuyder Zee is now eighty miles long, and from twenty to forty broad. It includes, however, the large Pampas bank and numerous shallows. The history of this coast, therefore, has been the history of the continuous incroachment of the sea, and the time is not far distant when the string of islands which now form such a curious fringe to the coast of Holland, and extend from Texel to the little island of Norderney, was a portion of the mainland. The wearing of the opposite coasts of Norfolk and Yorkshire is very notorious, whole villages and towns have disappeared. We have all heard of the tradition about the Goodwin sands, and although doubts have been cast on the circumstances of the story, there can be few who will doubt that at a not very remotely earlier date than the traditional one, these high banks of sand formed part of an abutment of Kent, and that consequently the coasts of England and Holland were much nearer one another.

If we now go further west, we find the French coast fringed with submerged land, in which are the remains of buildings and works of art. Similar buildings exist in the submerged forest of St. Ouen, off Jersey. Captain White, who surveyed this part of the Channel, describes long lines running along the bottom of the sea, evidently artificial, and probably similar to those mentioned by Borlase about the Scilly Isles, locally called hedges, *i.e.*, ancient stone walls, which the latter says are often seen upon the shifting of the sand in the firths between the islands. Captain White saw stumps of trees both on the French coast and that of Jersey, sixty feet below high water mark. He says the summit of one of the seven half-submerged rocks between Scilly and the mainland has been levelled by art, and he dredged up there part of the loaden astragal of a window. Even in Camden's day remains of houses had been

hooked up here. He tells us the space within the stones was known to the Cornish as *Tregva*, or the dwelling: He also mentions the tradition that a large extension of the land known to the natives as *Lionese*, had been drowned within the historic period. I do not say that these facts warrant our saying that these border lands of the Channel are now sinking, for it may be that the gradual rise further north has increased the volume of the water on other coasts. They do warrant, however, our stating that everywhere where we have examined the question we find changes of the relative proportions of sea and land going on.

I think I have adduced sufficient evidence to prove the fact that from the western shores of England to the desert of Thibet the relative height of the land, and with it the relative proportion of water has been undergoing great alteration since the times of the ancients. The rate of this elevation now becomes of considerable consequence. In the north there is evidence to show that it has not been uniformly progressive. In many places, as also is the case in Scotland, the land rises in a series of plateaux. These are susceptible of two explanations. One adopted by Sir Charles Lyell, that intervals of gradual elevation, have been succeeded by intervals of quiescence, and that the steps, in fact, mark halting stages in the progress. For this view I know of no evidence. It accords well with the anti-cataclysmatic crusade of some modern geologists, but is supported by no facts. Another explanation, which I confess I have the weakness to prefer, is that at intervals the land has risen with an actual jump or start, which has been followed by another interval of normal rise. The extent of the uprising being measured by the depth between any two plateaux. This view is supported amply by what Darwin tells us of the western coast of South America, a country like the Scandinavian peninsula and Scotland, having a huge boss of mountains close at hand, and subject to frequent earthquakes. Among other instances, I will name the island of Lemiro, in the Chonos Archipelago, which was suddenly elevated by an earthquake in 1839. A part of the island of Chiloe rose four feet in four years.* The island of Mocha, seventy miles north of Valdivia, was uplifted two feet during an earthquake in 1835. At Valparaiso, there had been a rising of the land of nineteen feet and a half between 1614 and 1834, of which between ten and eleven feet appeared subsequent to 1811. In 1822, an earthquake caused three feet of this to rise at once. The finding of boats, etc., in Sweden, in a high beach, is also paralleled here, for Darwin relates his discovery of a piece of woven rushes, and another of nearly decayed cotton string, undistin-

guishable from similar things found in the ancient Peruvian cemeteries, in a bed of shells, two feet thick, eighty-five feet above the sea level, in the island of San Lorenzo, off Lima, apparently proving that a rise to this extent had occurred there since the Indians inhabited the country.

We have traditions of sudden eruptions of the sea on the Pomeranian coast as well as those previously referred to in Holland, which seem to point to periods of exceptional vigour in the uprising of the sea bottom. The emigration of the Cimbri from their homes was explained by them, as recorded in Strabo, by a sudden bursting in of the sea.

In the fifth chapter of the *Ynglinga Saga*, as given in Mr. Laing's translation of the *Heimskringla*, is a wild legend of the days of Odin, in which such a convulsion seems to be dimly hinted at, as noted by the learned editor, a convulsion in which the island of Sealand rose from the waters.

Lumps of an asphaltic nature are sometimes found thrown up on the shores of the Bothnian Gulf, which point to similar underground activity. Geologists have remarked how very local and violent the elevation of the Norwegian mountains must have been to have left the Swedish strata so horizontal as we find them. Sir Charles Lyell calculates four feet in a century as the greatest rate of change in the focus of the country he examined. I willingly accept this as the normal rate, but add, in addition to it, sudden elevations of varying intensity.

With these facts before us, we have only to examine the lowlands of Sweden, Finland, and Russia to find how much of their surface would be laid under water by a comparatively small rise in the land. In Sweden 114,500 square miles are of less elevation than 300 feet above the sea level. The whole of North East Sweden is a flat alluvial plain, dotted with lakes bounded by the low mountains of Swedish Lapland, which no doubt, within a recent period, formed a rampart to the sea. Finland is described as sprinkled all over with lakes, separated by flats of sand, and studded with low hills. The centre of Finland consists of a low plateau of from 300 to 600 feet of elevation, and trending downwards to the White Sea, it has all the appearance of having lately emerged from the water which once separated Scandinavia from the mainland.

The effect of a subsidence of the land, even to a small extent, in the Southern area I have described I cannot do better than transcribe from Lyell's account. He says:—"Let us take another example from a part of the globe which is at present liable to suffer by earthquakes, namely the low sandy tract which intervenes between the Sea of Azof and the Caspian.

If there should occur a sinking down to a trifling amount, and such ravines should be formed as might be produced by a few earthquakes not more considerable than have fallen within our limited observation during the last one hundred and fifty years, the waters of the Sea of Azof would pour rapidly into the Caspian. * * * The Sea of Azof would immediately borrow from the Black Sea, that sea again from the Mediterranean, and the Mediterranean from the Atlantic, so that an inexhaustible current would pour down into the low tracts of Asia, bordering the Caspian, by which all the sandy Steppes bordering that sea would be inundated, an area of several thousand leagues, now below the level of the Mediterranean, would be converted from land into sea."

That such mighty effects have occurred within the limits of history I should not be bold enough to assert, though I venture to think that in the romantic legends which have come down to us from the earlier frontiers of history, in the legend of the deluge of Ogyges among the Greeks, and in similar legends among the Chinese, we have traces of some such catastrophe. It is enough for me to have shown how much we must alter our map if we are to picture the surface of the Caspian shore as it was in the days of Herodotus, and if we are to criticise the father of history with justice. Enough for me to have adduced some facts to cast at the glib correctors of so-called ancient geographical fables. I confess to a weakness for those fables, and more I feel, and I appeal to every one in the room who has dipped his net into the weed-choked river of ancient European ethnography, if it be not impossible to attempt to drag out of it aught save confusion until we have settled the relations of its physical character. This is the border land of archæology and geology. It has been left too much to the students of the latter science. We must stretch further—we must bring light to bear from more distant sources—if we are to escape the sneers aimed at our science as one affording more exercise to the imagination than to the reason. To hypothecate is simple enough in a field like ours; to prove is a more heavy and harassing duty. I claim your very great indulgence for this dry paper. I am but a young fisherman; I have dipped but into a corner of a most confused sea. With your permission and with all humility I hope to drag it through and through sometime.

XIV.—*On the Tribes around Darjeeling.* By DR. A. CAMPBELL,
late Superintendent of Darjeeling.

[Read April 7th, 1868.]

It is more than a year since our President asked me to give the Society a paper on the Tribes of the Himalaya mountains around Darjeeling, and he was pleased to state that he knew my experience, after thirty years service in the Himalaya, would enable me to do this in a satisfactory manner.

I was scarcely in a position to disclaim this impeachment, and being desirous, if possible, to render some little service to the Ethnological Society, I did not refuse the duty, nor yet consent to it. There were some very good reasons, however, for not trespassing on the Society with a paper on this subject.

I had long ago in official reports to the Government of India, given detached notices of the varied population in the eastern portion of Nipal, Sikim, and Bootan, and some of these had been published by the Asiatic Society of Calcutta. Dr. Hooker, in his work on the Himalaya, had given information on the same subject, and Mr. Hodgson, well known to this Society, and to all European Ethnologists, has, in his "Comparative Vocabularies of the Languages of the Aborigines of India," and in other most important contributions, thrown great light on the philological and general affinities of these tribes; as well as on other sections of the Mongolian family of the human race inhabiting the adjacent country of Thibet. With these sources of information already open to the Society, and without having very much additional information to impart, I have hitherto held back in the matter; but I have recently observed that the publication of information in Indian journals does not generally spread in England, so that my present paper may not now be misplaced. There is yet another and a special reason which I would plead. It is almost impossible now-a-days to describe even any one tribe, any where in Asia, without being challenged to assign to it a specific place in some arbitrary classification of the human race. It must be physically identified with Caucasians, Mongolians, or other families; or lingually with Sanscritic, Indo-Chinese, Thibetan, or Aboriginal stocks of languages; otherwise observations are apt to be considered of

little use to ethnology. I am not anatomist or philologist enough to do this. I believe, however, that the British nation and this Society have other and very important interests in connection with Asiatic tribes besides the examination of their skulls, and the comparison of their languages, for the purpose of systematic classification.

It is, I think, incumbent on the British Government, wherever its rule extends, to secure the means of knowing the idiosyncrasies of all the tribes with which it is in contact. Without this, the duties of legislation can be but imperfectly performed, and the power of affording protection to life and property in peace and prosperity may be greatly curtailed. It should, therefore, I think, be no small aim of this Society to be instrumental in disseminating this kind of information to the Government, as well as in giving aid to science on more abstruse points connected with classification. Having troubled you with this explanation, I will ask your indulgence for my shortcomings, and now proceed to describe the tribes around Darjeeling, among whom I lived for more than twenty years in civil charge of the district. For eight years previous I served in Nipal. Darjeeling, in lat. 27° north and long. $88^{\circ} 22'$ east, was ceded to the British Government by the Raja of Sekim in 1835, to enable it to establish a sanatorium there for Europeans from Calcutta and Bengal. The north-western provinces having already secured Mussoorie, Lardong, and Simla, for the same purpose. ~~The country attached was without inhabitants.~~ This state of things soon altered. People flocked from all sides, and we rapidly acquired a thriving population. When I took charge there were not more than fifty families in the whole tract. In twelve years we had 10,000 inhabitants in it; and by an accession of territory, we had an increase of 36,000 in the Terai, or lowlands, at the base of the hills. In 1861, when I left Darjeeling, the total population was estimated at 60,000. The rapid progress of the new station was the result of free labour and free trade, regularly paid wages, a light land assessment, strict and prompt administration of justice, and close attention to the peculiar habits and customs of all classes. In the neighbouring native states slavery prevails extensively, compulsory labour is the rule, and the obstructions to trade in transit duties and monopolies, and the delay in the administration of civil and criminal law, are excessive. The land assessment, though not heavy, is encumbered by numerous petty exactions on government account, as well as for chiefs, smaller headmen, and officials, all of which we prohibited, and this was greatly in our favour. The elevation of the station is seven thousand feet above the level of the sea; the mean temperature of the year is

much the same as in England, the winter is not so cold, and the summer heat is so tempered by the rainy season, that the thermometer rarely rises above 75°. The average annual rainfall is one hundred and twenty inches. Its climate is most salubrious; the returns of English regiments stationed there show as light a sick list and small average of deaths as in any station of the British army home or foreign. The scenery is unsurpassed anywhere for beauty and grandeur; a tract of finely wooded and variously shaped mountains extending northwards, till they terminate in a stupendous range of perpetual snow, of which Kunchinjunga, the highest peak, is 28,136 feet above the level of the sea. The climate and soil favour the growth of tea and chinchona, which are now grown there. The former is excellent, and its manufacture gives employment to a large number of people; about a million pounds will be made there this year. The cultivation of the latter is rapidly progressing under the care of Dr. Anderson, of the Calcutta Botanical Gardens; and, referring to the prevalence of intermittent fever in India, and the enormous cost of quinine in Europe, this must be regarded as a most important experiment for the government and the whole population of India, by whom the virtues of quinine are most fully admitted. The Darjeeling territory is situated in the Sekim portion of the Himalaya, about three hundred and seventy miles north of Calcutta. The area is eight hundred square miles. To the west is the kingdom of Nipal; governed by the Goorkhas, a brave and patriotic race professing Hindooism. To the east lies Bootan, occupied by Bhotias, the most lawless and misgoverned people, I believe, in Asia. On the north is Thibet, an appanage of China, and on the south are the plains of Bengal. Its population has been derived from all these countries, so that the particulars I have to give for Darjeeling apply also to a very large mass of people spread over a very extensive area of the largest mountain range in the world, which, with an average elevation of 10,000 feet, culminates in the peaks of Mount Everest and Kunchinjunga, respectively 29,000 and 28,000 feet in height. This formation of country, making it extremely difficult to move about, explains the fact of so many languages being in use and the existence of so many distinct tribes. The following classification of the tribes will enable the Society to distinguish readily the salient joints of difference between them, as well as the important affinities by which they are linked together in physical characters, language, religion, superstitions, customs, etc. After which I propose to describe some of them at length, giving short vocabularies of their language. To speak of them generally, it will, I think, be best to say that every one of the

tribes, except the few Brahmins and Rajpoots, may be correctly referred to one or other of two great divisions, namely, the aboriginal races of India, or the Mongolians of Thibet. The greater number being a mixture of both. In this view they are shut out from all connection with the Aryans, a title more generally admitted than clearly understood. With the single exception of the Lepchas, who are pleasant looking and of fair colour, the others may be called rather ill-favoured or ugly. They are short in stature, have straight black hair, high cheek bones, small eyes, obliquely set, and low noses. Small hands and short heels distinguish many of them. Some of them have immense muscular development of the lower extremities, and carry loads of 200 up to 500 lbs. over the most difficult roads, and all are active and enduring; they are all used to iron weapons; and a few of them to the use of copper utensils. All weave strong cotton cloths; grow Indian corn, rice, and other grain; and breed sheep, cows, goats, ducks, and fowls. Some only have the use of letters. On our first arrival at Darjeeling they had no money. Salt was much preferred to it in buying provisions, as the remote parts of Thibet were the only sources of its supply. We soon introduced this commodity from Bengal, rupees spread rapidly among them, and a necklace of these coins is now a very favourite ornament among the women. There are no artizans among these tribes except in Nipal, where excellent iron implements and steel weapons are made. They have no towns, are poor agriculturists, speak many languages, are generally liked by Europeans, and are very well disposed towards the British Government.

CLASSIFICATION OF TRIBES.

1. *Brahmins and Rajpoots*.—Very few in number. Known to all the world, and need not be described. Language, Sanscrit. Physiognomy, Indo-European type, with a dash of Mongolian. Confined to Nipal, West of the Koose.

2. *Khus, Mágárs, Gooroongs*.—A mixed race, Hindeos with lax notions of caste. Speak Parbuttia dialect of Hindi; i.e., Sanscrit. Physiognomy, markedly Mongolian; stature low, 5 feet 3 to 5 feet 8 inches. Hands small. Mountaineers, make good soldiers.

3. *Bhoteas, Lepchas, Moormis*.—Buddhists, speak languages of Thibetan origin. Strongly marked Mongolian features. The two first, fair in colour, powerful frames, and active; feet and hands well developed. The last are of smaller stature than the two former.

4. *Limbos, Kirántis, Haioos, Sunwárs, Chepáangs*.—Mountaineers. Forms of religion unnamed. Languages referable

to the Indian or Thibetan standards. Stature small. Mongolian type strongest in the Limboos.

5. *Mechis, Dhimals, and Garrows*.—Inhabit the Terai, or lowlands at the foot of the mountains. Not Hindoos, Buddhists, nor Mahomedans. Physiognomy Mongolian, complexion yellowish. Withstand the effects of the most virulent malaria. Are not fond of soldiering. Language not Sanscritic.

6. *Thároós and Dhánwars*.—Either Buddhists or Mahomedans. Inhabit the Terai. Language not Sanscritic. Colour dark. Scarcely Mongolian in features.

7. *Báthur, Kébrut, Amáth, Máráha, Dhánook, Doms*.—Terai men, colour dark. Speak Hindi or Bengali; are Hindoos so called, but without the pale. Not Mongolian.

8. *Koches, or Rajbungsis*.—Hindoos, but not within the pale. Inhabit the Terai of Nipal and Sikim, and spread into the adjacent British districts of Purnea, Rungpoor, and Assam. Colour dark.

For the carrying on of business in judicial and revenue affairs, eight languages besides English were in daily use in my office: Hindoostani, Bengali, Hindi, Parbuttia, Lepcha, Bhotia, Limboo, and the Mech. In the first four I could transact business direct. For the remaining four interpreters were required, and still there were two languages, the Haioo and Kol, or Dhangur language of Chota Nagpore, to be provided for occasionally. In all this confusion of tongues, many individuals of different tribes could communicate with one another, but not one could understand or speak a word of English. This will give some idea of the difficulties and obstructions which beset British officers in the administration of justice and other civil duties, on the outskirts of civilisation, in the East. I shall now describe the Limboos, contrasting them with the Lepchas: a most interesting tribe, hereafter to be described.

THE LIMBOOS.

The Limboos form a large portion of the inhabitants in the mountainous country between the Dood, Koosi, and Kanki rivers in Nipal, and are found in smaller numbers eastward to the Mechi river, which forms the boundary between Nipal and Sikim. There are very few in Sikim, and in Bootan they are only known by name. Since the cession of Darjeeling to the British Government in 1835, a large number of this tribe have settled there, and it is thus I became best acquainted with them. The word Limboo is, I believe, a corruption, probably introduced by the Goorkhas, or rulers of Nipal; from "~~Ek~~ thoomba," which is the more correct denomination of the tribe. They are also called "Chüŋg" by the Lepchas, which is a corruption of

"Tsang," the name of the western division of Thibet, of which Digarchi is the capital; and from whence it is supposed the Limboos originally migrated. In the present day, however, the Limboos are averse to claiming a Thibetan origin, they prefer being considered the aborigines of the country they now occupy, and will scarcely allow that any of the neighbouring tribes have any claims of preoccupation. They may, nevertheless, be safely referred to the great Mongolian family. The high cheek bones, small and slantingly set eyes, absence of beard, black and straight hair, as well as their language, clearly show this. Although they have been long in contact with the Hindoos, or Aryans, there is very seldom any perceptible mixture of the blood to be observed in more regular features, or in the absence of the small low nose, or the presence of the beard. On the other hand, it is evident enough that they have mixed much and for a long time with the Lepchas, for many persons are to be found in the country of the Limboos whose tribe cannot be settled except by a very practised observer, or by reference to the individuals themselves. The following are the most prominent distinguishing marks of pure specimens of this tribe.

The Limboo is a very little taller in stature than the Lepcha, whose average height may be taken at 5 feet 1 inch. He is less fleshy, and more wiry in the legs and arms; not quite so fair in complexion, but quite as destitute of beard. He is, however, scarcely ever ruddy as the Lepchas sometimes are; his eyes are rather smaller, and placed more to the front; and his nose, though somewhat smaller, is rather higher in the bridge than the Lepchas. He wears his hair long, but does not plait it into a tail; has no fancy for bead necklaces; wears a "Kookri," or bent knife, instead of the "Bán," or straight sword, with one-sided scabbard; wide cotton trousers and a short jacket or chupkun, instead of the striped robe and long jacket of the Lepcha. To a person accustomed to observing closely all these tribes, it is intuitively easy to distinguish a Limboo from a Lepcha by his features and figure alone; but it is not so easy, if they are dressed alike, to give the differences by which a Limboo may be recognised in such a manner as to render them obvious to strangers.* The Limboos are divided into two great sections or groups, "Hung" and "Rai," and sub-divided into the following families or clans. The "Hungs" have twenty-one clans, and the "Rais" twenty-eight: forty-nine in all; and there may be more. Query—Are these the "Huns" so long sought for in the mountains of Asia?

* Photographs of all the tribes were exhibited at the meeting.

Hünes.	Rais.
1. Lingdüm Chüŋg.	1. Pilkehum Rai.
2. Phedá Hüŋ*	2. Kembung "
3. Locktum Chüŋg.	3. Phagoo "
4. Chüŋg-Cung-Hüŋg	4. Luksum "
5. Nam Hung	5. Sirma "
6. Chinglinden Būŋg.	6. Kewa "
7. Yungé "	7. Eaka "
8. Shambu "	8. Kumboo "
9. Maboo "	9. Chamling "
10. Hemba Būŋg.	10. Sangpungia "
11. Songmi Hüŋg.	11. Pheka "
12. Mamben Bung.	12. Sheba "
13. Muringha Hung.	13. Eakin "
14. Sering doomayung.	14. Kebung "
15. Pegü Bung.	15. Weeung "
16. Pheka "	16. Neembung "
17. Maugmoo Hung.	17. Chemboojung "
18. Saling "	18. Yongia "
19. Laboong "	19. Kambung "
20. Legna "	20. Pontak "
21. Tong Sungboo Hung.	21. Kinding "
	22. Paloonga "
	23. Poorunboo "
	24. Linkum "
	25. Phapoo "
	26. Semling "
	27. Koojung "
	28. Khamba "

Some of these patronymics are referable to names of places in the Limbuan or Limboo country, others to places in Thibet, but the derivation of the greater number is unknown to me. At the present time, the Limboos at their homes are chiefly employed in agriculture, sheep grazing, and petty trading. At Darjeeling they enter readily, and in great numbers, into the service of the government and English settlers as labourers, in road making and building, wood cutting, and tea planting, in which their women and children find profitable and easy work in picking the leaf, and as cow-herds, grooms, grass cutters; and a few take more domestic service as chair-bearers and messengers. They are very active, fairly intelligent, and generally truthful and honest. Referring to their former history, long before we came in contact with them, on our first occupation of Darjeeling, they consider themselves a military race, and desire others to regard them as people who, from the pressure of adverse circumstances, are temporarily driven to their present ignominious employments, but who are ready on fitting occasion to resume the sword as their more proper and desired means of livelihood. The adverse circumstances complained of followed the conquest of their country by the Ghorkhas, at the

* *Phedá* means "valley."

end of the last century. Before the conquest of the whole of the country east of the Arun, the Limboos held a great portion of the country now inhabited by them in feudal subordination to the Rajas of Beejapore and Muckwanpoor, who were conquered by the Goorkhas. They were then divided into many small chiefships, and were represented at the courts of these Rajas, who were not Limboos themselves, by Limboo chiefs of note, who had often held the office of "Chountra," or prime minister, either hereditarily or by election of the Rajas. In each chiefship it was the custom to maintain a fort or stronghold of very difficult access, in which the chief generally lived, and to which his chosen followers repaired for its defence during a feud with a neighbour, or a dispute with the lord superior. It was to these strongholds that the Limboos retired during the incursions of the conquering Goorkhas, and in many of them they are said to have displayed the most heroic bravery against the common enemy of all the mountain tribes.

The accounts related by old men of the resistance of the Limboos to the Goorkhas, speak well for the former as soldiers; although they may be, as in similar cases, somewhat exaggerated, and innumerable defeats over the latter are related as having preceded the establishment of their supremacy. Foremost among the Limboo clans for bravery are the "Pheda Hung;" they held their stronghold of Yāngrōng against a superior Goorkha force for nearly a month, and did not yield until nearly the whole clan fell in a succession of assaults hand to hand with the Kookri.

In proportion to the praises bestowed by the Limboos on the gallantry of their own tribe, are the execrations against the brutal excesses of the Goorkhas when victorious. It is said to have been their custom to put all the aged of both sexes who fell into their hands to the sword, to carry the young and able-bodied into slavery, separating mothers from their children, and committing other enormities on those who were unable to march with their columns. These statements are, perhaps, exaggerated; although they are similar to those made by the late William Fraser, and other British officers, of the conduct of the Goorkhas in their conquest of the Sirmoor and Gwrhwál hills, to the westward, where the recency of the occurrences (not long before the war with the British in 1814-15) rendered it more easy to ascertain the truth than it is now. Whether it be to the traditions of the sufferings of their tribe, or to the irksomeness of the Hindoo laws of Nipal, bearing as they do on the beef-eating propensities and casteless habits of the Limboos, to both combined, or to more general defects of the Nipal Government, I am not quite sure; but it is certain that they

are not attached to their Goorkha rulers, and that they do not possess, in connection with them, any of the strong national spirit which so remarkably characterises the Khas, Magars, and Goorungs, three of the tribes enumerated—who are the great military tribes of Nipal, and of whom her large army is mainly composed. Although the Limboos are but sparingly enlisted in the Nipalese army, we find them make very good soldiers in our ranks. The British “Goorkha regiments,” of which a large proportion of the men are Limboos, have, on numerous occasions, proved themselves to be among our bravest and most devoted warriors. The siege of Bhurtpore, battle of Sobraon, Delhi, and other battle fields in the mutinies, have testified this.

Religion.—It is well known that the Hindoo and Buddhist religions are the prevailing ones throughout the Himalaya, from the Indus to the Burhumpootur. This embraces an area of 200,000 square miles; *i.e.*, a tract from north-west to south-east of 1,400 miles, with an average breadth of 150 miles; and that Mahomedanism has as yet made no progress in this region. The natural consequence of this is, that the portion of the population not belonging to either of these great religions has, ever since their introduction into the Himalaya, been subjected to their contending influences; so that we find in all the aboriginal Indian tribes, as well as in some of those who have come from Thibet, a considerable infusion of Hindoo tenets on the one hand, and of Buddhistical ones on the other. Where the tribes are most in contact with Hindooism, as in Western and Central Nipal, we have the Hindoo bias most heavily grafted on the original religion, and where Buddhism is most in contact with them, as in Sikim, we find that religion encroaching on and displacing the older forms. All casual observers would be apt to call the Limboos Buddhists in Sikim, and Hindoos in Nipal. The fact is, however, that they do not belong to either of these religions; but as the Hindooism of Nipal, suiting itself to the wants of the outcast world around it, readily admits within the pale those who practise in a very slight degree the outward forms of purity; and as the Lamas are very catholic in their principles, and very tolerant, it is not uncommon to find Limboos passing for Hindoos even where Brahmins are numerous; and equally common to find others following the Lamas, and passing for Buddhists. The transition from their own religion or form of worship is an easy one. Altogether free from the trammels of caste, they have not to sacrifice a single habit or custom in conforming to the Buddhist ritual, which may be fulfilled quite satisfactorily by constantly repeating the prayer, “Om Mane Padmi om.” We can settle what religion the Limboos do not belong to, but it is more difficult

to name the one they follow. They believe in the existence of the Great God, who is called "Sham Mungh" (the God of the Universe), and they worship other deities named "Nihangmo, Takpoopa", "Hem Süm-Müng", "Teba Süm", "Hem Süm", and "Mungul Mo", a preserving God,—the third is a destroyer. Teba Süm is a God of Wisdom, and Hem Sum is the household God, or counterpart of the Kool Deota of the Hindoos: thus we have the Creator, Preserver, and Destroyer of Hindooism. The Limboos do not build temples in honour of their deities, nor make idols; but they propitiate the Gods of good and evil through a wretched description of priests, and by the sacrifice of living animals. The usual form of worship consists in making small offerings of grain, vegetables, and sugar-cane, and in sacrificing cows, buffaloes, pigs, fowls, sheep, and goats, to one or to all of the Gods, and in eating the flesh afterwards; or, as it is forcibly expressed by themselves, dedicating "the life breath to the Gods, the flesh to ourselves." The usual places of sacrifice are merely marked by the erection of bamboo poles, to which rags, previously consecrated by being offered up, are tied. These places are generally, for convenience, at road sides, or at the junction of two roads, and a cairn of stones is generally collected at their base.

The gods have all beneficent attributes except "Hem Chung Müng", but there are evil spirits in the imaginary world of the Limboos, as in that of other people who require peculiar management in warding off these caprices. This task gives frequent occupation to the "Bijooas" and Phedangbos, who are the priests and necromancers of the tribe.

The Bijooas are wandering mendicants peculiar to Sikim and the eastern portion of Nipal, where they are cherished and propitiated in a less or greater degree by all the tribes, but especially by the Limboos. They are wholly illiterate, do not teach any religious doctrines, or perform public religious services. They are believed to minister to the evil spirits and malignant demons, still having the power of warding off their machinations. They travel about dressed in the purple robe of the Lamas, with broad-brimmed hats and dishevelled hair, carrying the "Mane" or prayer cylinder of the Buddhists, muttering prayers and incantations to its revolutions, and a human thigh-bone trumpet, from which they announce their approach, and by its use some awe is inspired among the women and children. They sing, dance, beg, cast out devils, and prescribe nostrums for the sick, attend at births, marriages, feasts, and funerals, and are held in considerable awe if not in much veneration. A Limboo will tell you that the "Bijooas God is a just God: when he curses you, his words are sure to come to pass; when he

blessees you, a real blessing attends the act; you should never allow the Bijooa to leave your door dissatisfied, for surely something bad will befall you if you do: whereas, if he leaves it contented, you infallibly grow fat and remain satisfied!!” Such is the information seriously given regarding these mountebank priests by the deluded people who feed and propitiate them in the belief of their mysterious powers. The “Phedangbo” is exclusively the priest of the Limboos. He is entirely disregarded by the other tribes, some of whom, especially the Lepchas, acknowledge the power of the Bijooa. He, also, is unlettered; but holds converse with the Gods, and officiates at sacrifices, deaths, births, and marriages. The calling is generally hereditary, Bijooas and Phedangbos marry. The calling is, however, not necessarily hereditary. In a family of six or eight sons, one is generally a Phedangbo; this one fancies he has a call to the sacred office, and when he declares himself he is accepted as such. In fact, as the Limboos tell you, “he feels within him that he can propitiate the Gods, therefore he is henceforward a priest.”

Marriages.—When a Limboo desires to have a wife, he looks about and fixes on a young girl who takes his fancy; then he sends a friend with two or four rupees to her father’s house, to gain his consent to the union, and arrange about the sum of money to be paid, and the time of performing the ceremony. When these preliminaries are concluded, he sends the remainder of the purchase money, ten or twelve rupees, £1, and proceeds to the ceremony accompanied by a “Phedangbo” and some one carrying a couple of fowls. The young pair, being seated side by side, are sworn to connubial fidelity by the priest, who now places a hen in the hands of the bride, and gives the cock to the bridegroom. A plantain leaf is laid on the ground between the birds, the priest, repeating some words, cuts off the cock’s head first and then the hen’s, directing the streams of blood on the leaf, where they intermingle. If the blood spreads into fanciful shapes or flower-like patches, it betokens good luck and happiness to the parties; if into large blotches, it is an omen of evil. This ceremony being ended, the friends of the pair are feasted, and, when it has been previously agreed on, the bride is carried home. The poverty of the bridegroom, however, often renders it necessary for him to remain with his wife’s father for some time, and he becomes his slave until by his work he has redeemed his bride. A poor man generally gets over all preliminaries, as well as the marriage ceremony, in one day. It costs a wealthy man a week. The Limboos marry with the Lepchas, and also with the Moormis; the latter alliance is, however, objectionable, but it is followed by no social inconvenience.

Births.—The Phedangbo is called in at births, if parents can afford him a dinner; he examines the infant carefully, and then pronounces its destiny, sacrifices a fowl or kid, and invokes the blessings of the Gods on the young stranger. The parents name the babe on the third day after birth. Children born out of wedlock, and the produce of Limboos and Lepchas, are called "Koosaba." Boys become the property of the father on his paying the mother a small sum of money, when the child is named, and enters his father's tribe; girls remain with the mother, and belong to her tribe.

Deaths.—Just as the vital spark has quitted its mortal tenement, it is usual among Limboos who can procure powder to fire a gun, to give, as is supposed, intimation of the event to the Gods, and to speed the soul of the deceased to their keeping. They burn the dead, selecting summits of mountains for the purpose, and afterwards collect and bury the ashes, over which they raise a square tomb of stone four feet high, placing an upright stone on its summit. On the upright stone of a chief's grave is inscribed a record of the largess distributed at the funeral; this inscription is either in the Deva-Nagri or Lepcha character. It is an act of virtue in the relatives to give largess, but is not apparently considered of any efficacy to the soul of the departed. The Limboos do not make any offerings or sacrifices for the dead, nor do they believe in the transmigration of souls. They mourn the dead by weeping and lamentations at the time, by avoiding merry makings, and by adorning the hair with flowers for a month or two. Their houses are built of stone raised on a platform of the same, from two to four feet from the ground; they rarely consist of more than one apartment, and are roofed with grass thatch. In respect of neatness and comfort, their dwellings are far surpassed by the roomy and picturesque abodes of the Lepchas. Like the latter, they avoid hill tops for their residences, and locate themselves in valleys at great elevations, or along the hill sides, at two, three, or four thousand feet above the level of the sea.

Languages.—For some years after I first knew the Limboos, I believed that they had no written character to their language, as all who could write used the Deva-Nagri character only (a Sanskritic one), and no traces of a written language could be found. To confirm this view, Nam Sing, the Dewan of the Sikim Raja, himself a Limboo, and about seventy years of age, told me that in his youth he used to see Limboos reading in a character which he believed was peculiar to his tribe, and that he was told by some of the oldest men then living that this character was one which had been compounded from many others, by a sage of the tribe who had lived at a very remote

unknown period in Thibet; but that it had entirely disappeared in his own lifetime. He promised, however, to get for me some particulars of its gradual disappearance, but he died soon afterwards without throwing any more light on the subject. I was still, however, on the look out for this lost character, and at last procured it. Twenty years ago, Lieutenant George Mainwaring, of the Bengal army, visited Darjeeling, and applied himself sedulously to the acquirement of the Lepcha language. During this time he became so fond of this tribe that he lived among them, adopting their dress and habits so completely, that he acquired the soubriquet of "Lepcha Mainwaring," which he retains to this day. I informed him that it was desirable to procure some written specimens of the Limboo language, and fortunately he succeeded in doing so in the form of a small book. He also procured the written alphabet from a Limboo, annexing the sounds in the Roman character, and gave me a copy, which the Asiatic Society of Bengal produced in the proper form, and it is here appended. It consists of nineteen consonants, nine vowels, and seven finals. Four of the finals, Mr. Mainwaring says, "are similar to the Thibetan and Lepcha alphabets." This is the only remark he makes on the affinities of the alphabet, which, there can be no doubt, is a Trans-Himalayan one. The affinities of the language itself are given in Mr. Hodgson's tables. I possess a small book in written Limboo character, which I have the honour to show to the meeting.

I may here mention that all the languages and dialects of Thibet are written ones, only except the one in which the Buddhist Scriptures and literature—translations from the Sanskrit are preserved in wooden printing blocks—specimens shown. In the disappearance from common use of the written Limboo, we have but an example of the probable fate of other Himalayan dialects, under the influence of others, of more extended utility from the Indian side, and this will, perhaps, gradually extend to the disappearance of these languages as spoken ones; the vitality of tribal tongues, however, in mountainous countries, is well shown in Scotland and Wales. On the other hand, we had an example a short time ago, brought to the notice of the Society by Lord Strangford, of the disappearance of the language of the Walaks in Asia Minor, and within a recent period I think.

I now conclude the history of the Limboos with a short vocabulary of their language. On some other occasion I shall be ready to furnish the detailed notices of the other tribes, if agreeable to the Society.

LIMBOO VOCABULARY. TWO HUNDRED WORDS.

(V. for verb; N. for noun.)

Above, <i>tāngā</i>	city, <i>pang yek</i>
aged, <i>kapōā</i>	cloth, <i>tek</i>
air, <i>shāmi</i>	cloud, <i>kā-mī</i>
all, <i>keere</i>	cold, <i>choongsi</i>
arm, <i>hook</i>	comb, <i>takomah</i>
arrow, <i>thoong</i>	come, <i>tāngay</i>
ashes, <i>kapoo</i>	copper, <i>tāmbā</i>
ask, <i>shelaaste</i>	cotton, <i>takay</i>
axe, <i>tonti</i>	enough, <i>humāmā</i>
back, <i>ar, n.</i>	country, <i>lājay</i>
bad, <i>menzegāba</i>	cow, <i>yepi</i>
bag, <i>shoowa</i>	cubit, <i>chamkoo</i>
bamboo, <i>phā</i>	cut, v. <i>cheptay</i>
bark, <i>ho, v.</i>	dance, v. <i>langmā</i>
bark, <i>shinghoori</i>	daughter, <i>meuchumā</i>
barrel, <i>towa</i>	day, <i>koolen</i>
bead, <i>eiche</i>	deaf, <i>nātākie</i>
bear, <i>magsen, n.</i>	dear, <i>quāktee</i>
beat, <i>sheray</i>	deer, <i>keliba</i>
beautiful, <i>noghū</i>	die, <i>shray, B.</i>
bed, <i>netwādry</i>	dig (earth) <i>kamtoyie</i>
bee, <i>leem</i>	dog, <i>kochoo</i>
bell, <i>ponggyay</i>	draw, <i>ōakay</i>
belly, <i>shāpoo</i>	drink, v. <i>toongay</i>
bird, <i>mōōyava</i>	dry, <i>kohedia</i>
bitter, <i>kī</i>	eagle, <i>negurā</i>
black, <i>mākkloh</i>	ear, <i>neko</i>
blanket, <i>nāmboo</i>	earth, <i>kāmbekmā</i>
blood, <i>lakshokpa</i>	east, <i>namgam</i>
blue, <i>mukloh</i>	egg, <i>wātern</i>
board, <i>shingophreu</i>	elbow, <i>noksōōmbā</i>
boat, <i>kombe</i>	empty, <i>hoblang</i>
body, <i>yōm</i>	evening, <i>nāmtaych</i>
bone, <i>kūlungji</i>	eye, <i>mih</i>
book, <i>sāpla</i>	face, <i>guā</i>
bow, <i>n, li</i>	far, <i>mānkā</i>
boy, <i>henja</i>	fat, <i>so</i>
bracelet, <i>shiringma</i>	father, <i>amba</i>
branch, <i>kōōneke</i>	feather, <i>waylup</i>
breast, <i>loongma</i>	fever, <i>toong-dushu</i>
bridge, <i>phoong</i>	field, <i>yeān</i>
broad, <i>yomba</i>	fight, <i>kemā</i>
brother, <i>amphoo</i>	find, <i>komah</i>
— younger, <i>nisha</i>	finger, <i>hookejah</i>
buffalo, <i>shāngwā</i>	fire, <i>may</i>
buy, <i>meuloong</i>	fish, <i>guā</i>
candle, <i>tiāloo</i>	flesh, <i>karay</i>
cannon, <i>pootang</i>	flower, <i>phoong</i>
caste, <i>keloongji</i>	fog, <i>kāmāy</i>
cat, <i>miongma</i>	fool, <i>kengbungba</i>
cheek, <i>pedengbā</i>	foot, <i>leugyetimba</i>
child, <i>oong negwā</i>	forest, <i>tamphoong</i>

fruit, *kooshay*
 full, *koodeen*
 garden, *kame*
 ginger, *kúmbe*
 goat, *mendá*
 god, *shám*
 gold, *shamiang*
 good, *note*
 grass,
 great, *yombá*
 gun, *tumok*
 hail, *phoh*
 hair, *tugek*
 hand, *hook*
 hard, *chingoomlo*
 hear, *kepschoobi*
 heavy, *leep*
 heart, *ningwá*
 heaven, *shanglumdung*
 hell, *tangshukpá*
 hen, *wáh*
 here, *kotna*
 high, *tank*
 hill, *tohsong*
 hog, *phak*
 horn, *koodang*
 horse, *on, L.*
 hat, *namsay*
 house, *terá*
 hunger, *shilák*
 husband, *meet*
 I, *eruga*
 iron, *phenjay*
 kill, *v. sheray*
 king, *hung*
 knife, *kurdá*
 knee, *khorá*
 ladder, *preng*
 lamp, *dio*
 laugh, *yemá*
 lazy, *ke shoobá*
 leaf, *telá*
 lead, *chookpá*
 leap, *hochoom-lokpa*
 leech, *lukphet*
 left, *pheuchanga*
 leg, *poklám*
 leopard, *ke bá*
 lie, *imshí*
 little, *chookpa*
 load, *gok*
 loom, *chiriketokpa*
 long, *kembá*
 louse, *shee*
 low, *yeo*
 maid, *menchia*

maize, *mákee*
 man, *namni*
 many, *yeolik*
 marry,
 mat, *lompay*
 middle, *kooloomio*
 milk, *bidno*
 monkey, *chobá*
 mouth, *moorá*
 moon, *thábá*
 mother, *amó*
 mouse, *shoobá*
 mouth, *lebá, L.*
 mud, *legua khám*
 nail, *nung*
 name, *koming*
 near, *koyeo*
 neck, *shurrá*
 needle, *sumett*
 net, *kioong or churi*
 new, *kusong*
 night, *sendik*
 north, *thó*
 nose, *nebáú*
 oil, *mingay*
 old, *koo drong*
 onion, *mákó*
 order [no word]
 other, *egi umbá*
 ox, *beet*
 paddy, *yáh*
 paper [no word]
 peacock, *myoongjay*
 pine-apple, *poor shay*
 place, *la jee*
 plantain, *telá she*
 plough [no word]
 poison, *ning, L.*
 potato or yam, *kay*
 powder [no word]
 quick, *hurra hurra*
 rain, *weehi*
 ratan, *shi*
 read, *neeray*
 red, *he tamba*
 rice, *shíáh*
 right, *phenchung*
 ripe, *doomshay*
 rise, *boghay*
 river, *yeombá choa*
 road, *lum*
 rope, *tuk pá*
 root, *sháp*
 roof, *him tong*
 round, *kooshay*
 salt, *yim*

sand, *yeu kâ*
 scissors, *kuturna*
 seed, *yeâlî*, L.
 shield, *koh*
 shoes [no word]
 shoulder, *phak tang*
 shut, *sâk-te*
 sick, *took*
 silver, *yāng*
 sin, *minobā*
 sister, *noosa-noonchema*
 brother, *noosa-empercha*
 sit, *yoong-e*
 scratch, *somā*
 slave, *henja*
 female slave, *beechea*
 sleep, *mig yeu*
 small, *tanga*
 smith, *thembā*
 smoke, *me koo*
 snake, *wā seh*
 snow, *nāh*
 soldier [no word]
 son, *koosa*
 south, *yeō*
 speak, *bāp mā*
 stand, *ebe*
 star, *sohor*
 stone, *lōōng*
 straight, *don don hā*
 strike, *kipar*
 strong, *tomt oomba*
 sun, *nām*
 sweat, *so-al*
 sweet, *limba*
 tail, *sheem*
 thief, *kootribā*
 thigh, *poklam*
 thin, *chookbā*
 thou, *kenne*
 thread, *kee*
 thumb, *koodom*
 thunder, *kāmian*
 tiger, *keba*
 tobacco, *shirka*
 to-day, *eu*

to-morrow, *tāndu*
 tongue, *ullee*
 tooth, *hā*
 tree, *shing*
 true, *koochā*
 turban, *pake*
 tusk, *hakemba*
 umbrella [no word]
 uncle, *umpunga*
 under, *yeo*
 unripe, *mudoomsin*
 valley, *tompoza*
 village, *bang pe*
 vomit, *pe shoo*
 walk, *lang, kekma*
 war, *tokma*
 warm, *movah*
 water, *choa*
 wax, *malim*
 we, *annigay*
 weak, *mun toomba*
 widow, *bidooa*
 widower, *rāndā*
 weave, *lāngtuk*
 well, N. [no word]
 weigh, *tāngu*
 west, *nāmtā*
 what is it? *hene go*
 where, *alte lājee*
 whistle, V. *thuriyok*
 white, *pho dāng be*
 who, *Eng, oh*
 wind, N. *sūmet yenba*
 woman, *menchima*
 wife, *āmett*
 wood, *shing*
 word, *bān*
 world, *yeolik lājee*
 worm, *tāmboo*
 worship, *mangjokma*
 yam, *ke*
 year, *toong be tik*
 yellow, *peyor lu*
 yesterday, *anchen*
 young, *taugmen*.

NUMBERS.

one, *teek*
 two, *netchi*
 three, *somchi*
 four, *leeski*
 five, *nashi*
 six, *tookshi*
 seven, *noshi*
 eight, *etchi*
 nine, *phangshi*
 ten, *thibong*

twenty, *nibong*
 thirty, *soombong*
 forty, *libong*
 fifty, *nabong*
 sixty, *tookbong*
 seventy, *nobong*
 eighty, *tibong*
 ninety, *phang bong*
 hundred, *thibong bong*.

XVI.—*Note on Dr. Campbell's Paper, "Relations of the Languages of the Darjeeling Tribes."* By HYDE CLARKE, Fellow of the Ethnological Society, of the Royal Society of Northern Antiquaries, etc., etc.

[Read April 7th, 1868.]

THE nearest congeners of Lepcha are to be sought in southern Assam, in the languages of the Khari, Tengsa, Hatigor, Tahlung, and Mithan. The Ekthoomba, or Limboo, and Kerantee constitute a local group. The Moormee is closely allied to the Magar of the Upper Himalaya and the Thaksya of Nepal. All these are connected with Thibetan, and belong to the same class, and thereby have affinities, more or less remote, with Chinese and Indo-Chinese.

The characteristic roots, assisting for identification, are the words for *eye* and *water*, very often test words in glossology, *fire*, *man*, *moon*, *three*, *five*, and *ten*. It is remarkable, that the affinities of the Georgian languages are particularly to be found in the Ekthoomba, Kerantee, and Moormee languages of the Darjeeling tribes. These affinities between Tibet and the Caucasus were first pointed out by Mr. Hodgson, and my labours on that subject confirm his views. The numeration and chief roots show a decided conformity. The idea prevalent among philologists that Georgian and Armenian are connected, is utterly unfounded; as also the idea that Georgian is an Indo-European language. Its grammar is what is called Turanian. Circassian is connected with Georgian.

The general question of the languages of the Caucasus demands further inquiry. I am still of the opinion that the affinities of most of those languages are Tibetan, and that with a further knowledge of the Tibetan group we may have better means of identification. It was Mr. Hodgson's researches in the Darjeeling languages which gave the first clue to the affinities of Georgian, and the relationships of Tibetan are scarcely known as yet. It was only in 1866 that the Rev. J. Jäschke discovered in the Tibarskad, or Beenax of Lahoul, some anomalous elements, which, so far as my examination has enabled me to ascertain, belong to no recorded language.

A short comparison of the leading roots of the Darjeeling languages, and their affinities, is here given, with some corrections for the Georgian roots.

RELATIONS OF THE LANGUAGES OF THE DARJEELING TRIBES.

	Lepcha.	Khari.	Eikthomba or Limboo.	Keransee.	Moormee.	Written Tibetan.	Spoken Tibetan.	Georgian Allied Dialects.
Que	kat	akhet	thot, teek	ektai	grik	gchig	chik	erthi, esgo, ar
Two	nyet	anne	nyotsh	hasat	nyi	gnyis	nyi	ori, skiri, yeru
*Three	sam	asam	symsh	sunya	som	g-sum	sum	sami, sumi
Four	phali	phali	lisb	laya	lli	bshi	zhyi	othkhi, worscho
*Five	phagnon	phangu	gnash	gnaya	gna	hna	gna	khouthi, wokbusi
Six	tarok	tarok	tuksh	tukyu	dhu	druk	tAu	ekwsi, usgwa
Seven	kakyok	tani	nuksh	bhagya	nis	bdum	dün	swidi, isgwit
Eight	haken	sachet	yotsh	teya	pre	brgyud	gyé	rwa, ovro, vuo
Nine	kakyet	taken	phangsh	phangya	kuh	dgu	gu	tskhra, c'khara
*Ten	kati	tarah	thibong	tip	chiwai	behu	chu	athi, withi
*Man	maro	ami	yapme	mana	.....	mi	mi	katzi
.....	tagri	.....	yambocha	.....	mi	mgo	go	.....
Head	athiak	.....	thagok	tang	thoho	skra	thawi	thma
Hair	achiom	.....	thagi	moa	kra	.....	.....	kheli
Hand	kaliok	.....	nuktrapphe	chukuphema	ya	.....	.....	pekhi, perh'i
Foot	dianghok	.....	laugdapphe	ukhura	balo	.....	.....	.....
*Eye	amik	.....	mik	mak	mi	mig	mik	.....
Ear	anyor	te-nhaun	nekho	naba	nape	sa	anch	quri
Bone	arhet	.....	sayet	saiba	nakhu	ruspa	ruku	dswali
Tooth	apho	ta-pha	hubo	kang	swa	so	so	khbili
Sun	sakhak	sutuh	nam	nam	dini	nyima	nyima	.....
Moon	d.u	leta	lare	lava	ladima	slava	dawa	mdhoware
Star	sahor	.....	kesva	sangyen	karchiu	skarna	skarna	warstlawi
*Fire	mi	matsu	me	mi	me	me	me	.....
*Water	ong	.....	chua	chawa	kwe	chiau	chhu	tsqali
Stone	long	along	lung	lungta	yumba	rdo	rdo	.....

XVI.—*An Account of some Cases of Arrest of Development.*
By EDWARD MERYON, M.D., F.G.S., Fellow of the Royal
College of Physicians.

[*Read April 7th, 1868.*]

SOME four years ago I received a letter from my friend the Hon. and Rev. Lord Sydney Godolphin Osborne, requesting me to pay him a visit in Dorsetshire, for the purpose of examining two boys whom he fondly designated his pet monkeys.

From the description then given of them, I concluded that they were microcephalic children; and, although from time to time I heard of their peculiarities, I did not see them until last September (1867), when I was a second time invited to pass an opinion upon them, together with a third which had since been born.

They are the children of a well-to-do yeoman, who is himself perfectly developed and fond of all manly sports. His wife, also, is of ample size, lady-like, and intelligent; and neither of them can trace any physical or mental peculiarity in the families of their respective ancestors.

They have four children in all; a daughter between sixteen and seventeen—a well-grown girl, rather above the average both in appearance and intellect; and the three boys whom I am about to describe, the eldest about fourteen, the second about thirteen, and the third about four years of age.

I suppose it has occurred to most people to have been conscious of a misty or wavy appearance in the outlines of an object, the relative proportions of which obviously differ from the ordinary standard, especially if the object be one of a class which is the most familiar to us. Such was the impression I felt when I first beheld the boys in question.

The height of the two eldest is just thirty-seven inches, and their respective weights, twenty-three and twenty-five pounds—the second being the heavier of the two. The youngest weighs barely twelve pounds.

The circumference of the head of each of the two eldest, taken over the superior transverse ridge of the occipital bone and the most projecting part of the forehead, is sixteen inches, and exactly the same around the superior and lateral portions of the head and chin. It is, in fact, the smallness of the heads which first startles the beholder. In relation to the faces, however,

they are well proportioned heads, tolerably well rounded, and all three have well marked chins, but, if anything, perhaps a little short.

On stripping the two eldest, the bodies appear somewhat elongated, and bent more than ordinarily forward. The arms are not long, for the points of the fingers do not extend beyond the centres of the thighs.

The thighs are muscular, but the gastrocnemii and solei muscles are attenuated, so that the calves of the legs are very small.

There is a disposition in each to walk on the outer edges of the feet. This is especially the case in the second boy, whose great toes are somewhat opposed to the other toes; not quite so much, perhaps, as are the thumbs to the fingers; but certainly more so than are the great toes of the infant; and, notwithstanding that they have been confined in shoes, the great toes appear to be at least as prehensile as are the great toes of the infant. The peculiar articulation of the feet, which gives them an inward direction, enables these boys to run, rather than climb, up a tree, which they are said to do with great agility.

If the microcephalic skull be dependent on the premature ossification and coalescence of the bones of the cranium, these children are not microcephalic: for in the youngest the fontanelle between the coronal and sagittal sutures was still open in September last, although in the healthy child it is usually closed entirely in the third year. The course, also, of the sagittal suture, between the parietal bones, could be distinctly traced, as could also that of the lambdoidal suture; and the mother herself (who, in her anxiety concerning her children, had heard of the preternatural thickening and coalescence of the bones of the skull), on observing me feeling for the lines of sutures, remarked that "the head of the youngest was open like the head of any other baby, and that she inferred the heads of the two others were also similarly open."

In neither of these three boys have the testes descended into the scrotum. This latter portion of integument is a mere fold, and therefore exceedingly small; so small, indeed, that the mother thought there was something unnatural, but was not aware of the deficiency. The testes, as is well known, are in early foetal life contained in the abdomen, one beneath each kidney; and it is probable that there they exist still in their rudimental condition.

In each boy the mouth is well formed, the palate is ordinarily arched, the tongue is perfectly free in all its movements, and the teeth are in entire conformity with a healthy development;

but neither of them can utter a syllable. They have a peculiar jabber of their own, which they themselves evidently understand, and their mother comprehends much of it; but it is entirely unintelligible to others. For the last three or four years they have had a governess, who fancies that she has taught them to distinguish and articulate A, and B, and C, but I could not recognise the sound of either letter in their attempts to pronounce it.

They are, however, by no means idiotic, but appear, on the contrary, to be alive to anything that is ridiculous, and are very fond of imitating it.

XVII.—*A brief Account of the Wild Aborigines of Formosa.*
By F. WHITE, Esq.

[*Read April 7th, 1868.*]

THE following account of the aborigines of Formosa, an island, it will be recollected, on the coast of China, and nearly lying on the Tropic of Cancer, rather larger than Italy, has been courteously furnished from the Records of the Foreign Office. It may be hoped that it will prove the precursor of the fuller accounts from the gentlemen who are described in it as having lately visited the wild inhabitants in their own homes.

“It may not, perhaps, be out of place here, on concluding the foregoing brief remarks, to say a few words concerning a people, that even to us, living within a few miles of them, are still little known or understood. The savages of Formosa, or, as they are occasionally termed, the ‘aborigines,’ are divided by the Chinese into two classes, the *Shêng Fan*, or unsubdued, and the *Seu Fan*, or subdued, savages. The latter having intermarried with the Chinese, have lost nearly all traces of their original descent, and cannot, except on close scrutiny, be detected from the Chinese, whose habits and customs they have completely adopted. They still, however, speak their former language, and are employed on all occasions when the savages and country people meet for the interchange of goods. The unsubdued savages inhabit the hill country in the interior of the island, distant about forty-five miles from this port, in a north-easterly direction. The Chinese affirm them to be well-knit, agile men, with dark complexions, delicate features, and black hair and eyes, which latter features, unlike the same in the Chinese, are large and round. They are governed by chiefs, each of whom has absolute jurisdiction over his district, and feuds between the different clans are frequent and bitter; and as each household is well supplied with bows, arrows, and muskets, which they are ready to wield on the slightest provocation, their encounters are generally accompanied by bloodshed.

“The houses are built of bamboos, and a peculiarly large strong species of reed or grass, with which the sides and roofs are constructed. They appear to have no fortifications or walled villages, but the face of the country is so bold and precipitous,

they need no extraneous defence to enable them to resist invasion.

“Her Majesty’s Consul, Mr. Carroll, who, accompanied by another gentleman, has recently returned from a visit to their territory, describes the country as being most rich and fertile, and deserving of more minute investigation, evidence of mineral wealth having been detected on a mere passing examination. The savages appear well inclined towards foreigners, and have treated those who have visited them with friendliness and hospitality. Between them and the Chinese, the most bitter animosity exists; and the only intercourse that takes place is once every eight days, when both sides, accompanied on most occasions by some of the half-castes as interpreters, resort to a stated place on the border, when the Chinese barter iron and salt—the articles the savages do not possess—against dye, rice, which is said to be superior to any other grown on the island, hemp, tobacco, and sweet potatoes. No Chinese ever ventures into the interior, unless protected by a foreigner, and similarly, no savage crosses the border. In both cases, death would speedily follow detection. As in most savage countries, the women are made to do the greater part of the hard labour, such as cultivating the crops, in which the men partly assist, cutting fuel, etc. They have no domestic animals of any description; but the country is well supplied with game, and a description of wild boar, which they obtain by shooting and snaring. Of the origin of this people nothing certain can be ascertained; they are unlike the Chinese in every respect, and more resemble the Malays in appearance than the natives of any other country. They are gradually being absorbed amongst the Chinese; and there is little doubt that they are yearly becoming less able to resist the encroachments of the latter, into whose hands it is to be hoped this richest part of Formosa will ultimately fall, to the development, it may be expected, of resources at present dormant, but known to be vast in extent.”

XVIII.—*Russian America, or “Alaska:” the Natives of the Youkon River and adjacent country.* By FREDERICK WHYMPER, Esq.

[Read April 21st, 1868.]

IN the paper I have the honour to lay before your distinguished society, I propose to treat exclusively of the natives of the Great Youkon river, and those of the coast immediately adjacent. In my recent stay in this northern country, in the service of the W. U. Telegraph Expedition, I had opportunities of becoming tolerably well acquainted with the natives, as we had to employ, travel with, and sometimes dwell among them. In my previous travels in Vancouver Island and British Columbia, with visits paid to the coasts of Kamchatka and Eastern Siberia, I also had some chance of studying the habits and character of the natives of those countries, but in a much more cursory and superficial manner. As I hope to have shortly the pleasure of laying before the Royal Geographical Society some general account of my trip, I shall only allude to the country, its productions, or climate, so far as seems necessary in connexion with the subject in hand.

On the 30th September, 1866, after a lengthened voyage, in which we had visited Petropaulovski, the Anadyr river, and Plover Bay (as Port Providence has always been called by the whaling ships, since Captain Moore, in H.M.S. *Plover*, wintered there in 1848-9), I went ashore to the Russian post of St. Michaels, in Norton Sound, Russian America, and the season being then late, started immediately for a second Russian post, that at the Unalachleet river, in the northern part of the Sound, for the purpose of travelling thence by a direct route, mainly by land, to the Youkon river. On arrival, we found the river almost completely frozen up. This place, according to Zagoskin, one of the few authorities we have on this part of Russian America, is in lat. $63^{\circ} 53' 33''$ N.

To the north-west of the Russian trading-post is a large village of Malemute and Kaveak Indians, a race of tall and stout people, many of them over our standard of height, but in other respects much resembling the Esquimaux. The men, very generally, shave the crown of the head, and wear the ornaments known as the “to-took”,—pieces of bone run through holes on either side of the face, immediately below the

mouth. The women are generally tattooed on the chin, and wear ornaments of beads from the hair, and leaden or iron bracelets; all adopt skin clothing; the true Malemute coat or shirt is square cut at the bottom, of but moderate length, and almost invariably has a hood. The woman's dress is longer, and has a rounded shape at the lower edge. Into the composition of these dresses, many furs may enter: the hood is almost invariably wolfskin, the long hairs of which shelter and half cover the face. Inside is sometimes a lining of soft, white Arctic hare. The body is generally reindeer-skin, but it may be of the wild or of the domesticated animal,—it may be the thick fur of an old buck, or the thin, half-developed *skin of a fawn that has never lived*. The Tchuktchis of the opposite Asiatic coast trade with these people extensively; and as they are well known to have large herds of domesticated reindeer (some of which I have seen at the Anadyr river, and elsewhere), *whilst the animal is never met with in Russian America but in a wild state*, the commerce is largely for tame reindeer-skins, which are exchanged for bone, oil, and the furs of smaller animals, by the natives of the American side. I shall have to allude to this trade in a subsequent paragraph.

Dresses of mink, marten, seal, and in fact of all the furs taken by them, are more occasionally seen. Fur pantaloons are also worn in winter by both sexes; the women's often have the socks attached, and in one piece. Their boots for winter use usually have reindeer-skin sides, and sealskin, with the hair removed, is used for the soles. The Malemutes and Kaveaks intermingle a good deal, but speak different dialects, and inhabit different parts of the country. The former extend from the Island of St. Michael's to Sound Golovin; whilst the latter occupy a still more northern country, adjacent to Port Clarence, near Behring Straits. I made a brief vocabulary of the Malemute dialect, which I should wish to deposit in your library. These natives use urine almost exclusively for washing and cleansing purposes. They tan with the same liquid, and soften the sealskin used for boot-soles with it. The seal is, perhaps, their most useful animal, not merely furnishing oil and blubber, but the skin is used for their "baidarres" and "baidarkes",—the former an open canoe built over a well constructed wooden frame, and exactly resembling the "oomiak" of the Greenlander; the latter is the same as the Greenland "kyack", but more often constructed with three holes than with one. Thongs, nets, lassoes, and boot-soles, are all made of the same skin. It is prepared by spreading fermented fish-spawn over the hairy side of the skin until the hair rots off. It is then stretched on a frame and saturated with urine, when

it becomes translucent. The fat is removed with bone or stone knives, metal being considered liable to cut it.

In spite of the Russian posts in Norton Sound, a large part of the Indian trade is carried on with the American whaling vessels who visit Port Clarence, Kotzebue Sound, etc., annually, and pay much larger prices than the tariff fixed by the Russian American Fur Company. Another part of the commerce of importance leaves by the hands of the Tchuktchis, before mentioned, who cross from the coast of Siberia by the narrow part of Behring Straits, and generally meet the Malcmutes and Kaveaks in Port Clarence. It is said, also, that the natives, from either side, meet sometimes on the Diomedé islands; but of this I have no positive proof. Inter-tribal commerce goes on to such an extent, that clothing worn hundreds of miles up the Youkon, and in the interior of Russian America, is of Tchuktchis origin, and is made up by the coast Indian women, who sew better than those of the interior. By constant inquiry, I found that American sable (stone marten), beaver, and fox skins, taken high up on the Youkon, traded to the co-Youkons, from them to the coast natives, and again from the coast natives to the Tchuktchis, eventually reach Russian traders on the Anadyr river, and other parts of the interior of Eastern Siberia, or the American vessels on the coast.

A large proportion of these natives have guns,—both flint-lock and percussion cap, obtained from the traders; and the bow and arrow are not much used. The smaller animals, marten, mink, hares, grouse, etc., are generally snared.

The berries (so abundant, as far as my experience goes, all over this part of the country) are eagerly sought by the native women, and, mixed with seal-oil, are looked on as a luxury. Raw reindeer fat is also considered a treat; and they cannot better show esteem for a visitor than by presenting him with a piece of "back fat."

Their houses are usually underground, the roof only rising above the surface. The entrance is through a kind of passage or tunnel, by which you crawl into the room. A hole in the roof lets out the smoke, and this, when the fire burns low, is covered with a skin. Nearly every dwelling has a stage for hanging fish and furs, and a small wooden house, or *cache*, on four poles, with a notched log serving as the ladder to it. These are used to stow away supplies and keep them from their dogs, or from wild animals prowling round the village. Canoes, not in use, are generally raised above the ground on tressels.

We saw the Indians, at this place, engaged frequently in fishing through holes in the ice, and catching a small kind of

“white fish” very readily. If we gave a fish-hook to a native, he usually tried to cut off the barb. They take such quantities at this season that they can afford to lose a few off the hook.

In this village, as at most others on the coast, there are buildings set apart for dances and gatherings of the people; they may be regarded as their town-halls. I witnessed several of their public festivals, in some of which they burlesque the motions of birds and quadrupeds. To one dance we were especially invited. Arrived at the doorway, we found a narrow subterraneous passage two feet and a half in height, crawling through which we at last reached the room itself, partly underground, and dimly lighted by blubber-lamps. The Indians to be concerned, chiefly young men, were dressing and bathing themselves in urine when we entered. All were nude to the waist, and wore sealskin, reindeer-skin, or cotton pantaloons, with the tails of wolves or dogs hanging from their posteriors, feathers and cheap handkerchiefs round their heads. The elders sat on a bench, or shelf, running round the entire building, and looked on approvingly, whilst they *consumed their own smoke* (as is also the manner of the Tehuktchis) by swallowing all they made, and getting partially intoxicated thereby. Their pipe-bowls are on the smallest scale; and they even dilute their tobacco with willow shavings cut very finely. Meantime, the women were bringing in contributions of berries and fish in large “contogs,” or wooden bowls, varying in shape from a deep dish to an oblong soup-tureen. The performance commenced by the actors therein ranging themselves in a square, and raising these dishes of provisions to the four cardinal points successively, and once to the skies, with a sudden noise like “swish!” or the flight of a rocket. May be it meant an offering to the seasons, and to the Great Spirit. Then came the feast, and that over, a monotonous chorus, with an accompaniment of gongs, was started. These gongs were made of seal gut stretched on a circular frame, and are struck with a flat stick. The words of the song consisted of “Yung-i-ya, i-ya, i-ya,” many times repeated. Then a boy sprung out on the floor; he was speedily joined by a second, and a third, and so on, till a circle of twenty was joined. Now they appeared violently attracted together, and now as much repelled; now they were horrified at one another’s conduct, and held up their arms with warning gestures; and again, all were friends and made pantomime of their happiness. In this performance, there was nearly as much done by arms and bodies as with the feet. When there was a lull in the entertainment, small presents were brought round to all the strangers; mine was a pair of soles of sealskin. So decided an odour, at length,

pervaded the ballroom, that we, one by one, dropped off from the festive scene: the Indians kept it up for hours afterwards.

Leaving Unalachleet on the 27th of October, we commenced our sledge journey by the short land route to the Youkon, and at only twenty-five miles from the coast, found the Ingelete tribe,—a people speaking a totally distinct dialect from the Indians just mentioned, but one, as we afterwards found, very closely allied to the co-Youkon. At their first village of Igtigalik (or New Ulukuk, as called by the Russians), we found two varieties of their houses. On the right bank of the Unalachleet river, we found a number of *summer* dwellings, simply consisting of shanties on the surface, with a very small hole, sometimes circular, for doorway, and a hole in the roof for the outlet of smoke. Behind them, on posts, were the fish-houses, or *caches* on posts, as before described. On the left bank were a few winter *underground* houses, similar to those already described. When the fire burns low, the embers and sticks are thrown out of the smoke-hole in the roof, which is then covered with a skin, effectually shutting in all warmth, with a good deal of smoke and carbonic acid gas. The entrance-hole is also covered in the same way; and the mixture of smells inside, arising from stale fish or meat, smoke, and dirt, is very sickening, although we were often glad to avail ourselves of their shelter. The dogs, scrambling over the roof, will sometimes tumble through the smoke-hole on to the fire below, scattering cooking arrangements to the winds, and themselves retreating with great alacrity. The Ingeletes are a fine, tall, stout race, with countenances generally expressive of good humour, and a fair amount of intelligence. Many of the men are six feet in height, and some few are over that standard. They were busy, when we saw them, making sledges and snow-shoes; some of the latter of which we obtained for our own use. They do not differ in dress or habits much from the Malcmutes. The little children are plump and good tempered, suck a stick of ice as though it were barley-sugar, and are totally unacquainted with the use of the pocket handkerchief. They seem to be, in trifles, very cowardly. If a strapping youngster tumbles down and bruises or scratches himself, the women gather round, gesticulating, and making a great fuss, and hide their eyes from the sight of blood. Both men and women smoke; the latter, especially, very sparingly. They also use snuff of Russian leaf-tobacco, rubbed up in a kind of wooden pestle and mortar. They have small oval snuff-boxes, and sniff the powder into their nostrils through a small, short wooden tube. Their honesty, both here and elsewhere, was tried, and not found wanting. I cannot recall a single proven case of dishonesty

among these people; who frequently had our stores of flour, tea, molasses, ham, etc., besides powder and implements, lying unguarded in their houses, during our absence, for weeks together.

A propos of their dirtiness, I must relate a short anecdote. The previous winter an Indian had applied for medical assistance to one of our expedition, stating that he had something the matter with his chest. A powerful blister was prescribed, put on, and left on all night. In the morning it was expected his bosom would be nearly raw, but the only effect it had on him was to leave a clean space on it the exact impression of the blister. The man got well immediately!

Leaving the village, after about fifteen miles travel, we arrived at the Ulukuk River. Rapids here keep the water open for a large part of winter, and the village of (old) Ulukuk is situated immediately by them. This is also an Ingelete settlement: they have many weirs and fish traps by the river, and it is the paradise of this part of the country in regard to salmon and trout. I prefer salmon cooked in the native way, by roasting it on a stick set by the fire and continually turned, to any more civilised mode usually adopted.

The Ingeletes extend to the Youkon, and dwell on a part of its banks. Passing over all details of our journey, I would say a few words on this great river itself.

On the 11th November, about noon, from a slight eminence we could see a faint streak of blue over the trees: we travelled hard to reach it, and at sundown broke from the woods, shot down a steep bank, and stood on an immense snow covered field of ice, the mighty Youkon! Hardly a patch of "clear" ice was to be seen, though large hummucks in places had been forced on the surface, all was covered by a wintry mantle; the river in but a few places still open and running swiftly. From bank to bank was certainly not less than a mile, and several islands were visible in either direction. A quarter of an hour's travel on its frozen surface, brought us to a third Ingelete village, that of Coltog, where we stopped some days in one of the largest underground houses we had seen, one inhabited by several families. The owner of the house, old "Stareek", received us well, and produced Arctic grouse and berries. He harangued his satellites by the hour together in our favour, and they were glad to trade with us for meat, etc. The poor old man, probably the "oldest inhabitant" of this part of the country, with his shrivelled form, wrinkled face, long thin hair, stubbly chin, and toothless mouth wagging in a spasmodic and eccentric manner, was a painful sight; but we made his heart rejoice by giving him cotton drill, powder and balls, and other small presents.

A few days after this our journey was completed; we had arrived at Nulato, the most interior post of the Russian-American Company, and at this place spent a large part of the remainder of the winter. As the Indians come to it from a distance of several hundred miles, we had much intercourse with them.

The largest tribe on the river is the Co-Youkon, a people much feared by the surrounding natives. They extend virtually from below the confluence of the Co-Youkuk River to Nuclukayette, at the junction of the Tanana and Youkon. Although some of the intervening tribes have local names, they speak one dialect and may fairly be considered as one people.

In general appearance they somewhat resemble the Ingletoles, but have a wilder and more ferocious cast of features. The true Co-Youkon dress is a double-tailed coat, one tail before and one behind, and this fashion, with various modifications, extends to Fort Youkon, and beyond. The women's garment is more squarely cut, and they adopt a long ornament of Hyagua shells (*Dentalium entalis*), obtained by trade from the Russian-American Company. This is worn on the nose, and runs through a hole made in the cartilage between the nostrils. Curiously, higher up the river it is the men exclusively who adopt the same ornament. These people in the early history of the Fort at Nulato gave the Russians much trouble, and in 1851, one brave Englishman, Lieutenant Barnard, of our navy (a member of Captain, now Admiral, Collinson's expedition), who had travelled thus far in the interior, met his death at their hands. At the same period they killed the head trader of the Fort, and wreaked their vengeance on the Nulato Indians; then a very small tribe, now almost extinct. At the date of this occurrence, about forty Nulato Indians were congregated in some underground houses near the mouth of the Nulato River, and about a mile from the Russian Post. The Co-Youkons surrounded these dwellings, heaped wood, broken canoes, paddles, and snow shoes, over the entrance and smoke holes, and set the whole on fire. All of the unfortunate people below were either suffocated or shot in attempting to escape. We heard of recent brutal murders among themselves; and, although we got along peaceably with them, they are undoubtedly a wilder and more savage race than those of the coast.

These people mourn for the dead one year, and the women during that time often gather together talking and crying over the deceased. At the expiration of that term, they hold a feast or "wake"! and the mourning is over. Their graves are simply oblong boxes raised on posts, sometimes decorated with strips

of skin hanging over them, sometimes with the possessions of the deceased (as a skin boat, or birch bark canoe, with paddles) on the top of the box. It is, in fact, a four-post coffin!

They have certain superstitions with regard to the bones of animals, which they will neither throw on the fire or to the dogs, but save them in their houses or *caches*. When they saw us careless in such matters, they said it would prevent them from catching or shooting successfully. Also, they will not throw away their hair or nails just cut short, but save them, hanging them frequently in packages on the trees.

The Russians have adopted from the Indians of the river a style of fishing through the ice, which yields good returns for their labour. Early in the winter large piles or stakes are driven down through the ice to the bottom of the river, to which are affixed traps of wicker-work, not very unlike the eel-pots to be seen on the Thames. Oblong holes above them are kept open through the ice by frequent breaking, and the baskets raised periodically.

These Indians catch deer in the mountains sometimes by an ingenious device. A kind of "corral", or enclosure, elliptical in shape, and one end open, is built on a deer trail, generally near the outlet of a wood. The further end of this corral is barricaded, while all round the sides stakes are placed with slip loops, or nooses between them. Herds of deer are driven in from the woods, and in trying to break from this enclosed space, they usually run their heads into the nooses, struggle, and get irrevocably entangled. They are then easily despatched, whilst some are shot by natives hidden behind erections of snow with holes through them, like the portholes of a vessel.

We experienced cold as low as minus 58° Fahr., or 90° below freezing. Whilst eleven days during winter showed a temperature below the freezing point of mercury, and accordingly we had to dress very much in the native manner, with reindeer coats or shirts. As soon as the great river broke up, in itself a grand sight after the monotony of the winter, we started up in a skin boat, accompanied by a number of Indians in a regular fleet of birch-bark canoes, their owners all bound for the regular trading meetings of the spring season. The canoes vary in length from eight to fourteen or more feet, according as they are intended for one or more persons. They are built over a light, but well constructed frame of wood; the seams of the birch bark are sewn with the finer roots of spruce fir, caulked with spruce gum. When a leak is discovered, an event of constant occurrence, the native goes ashore, lights a small fire, warms the gum, of which each man carries a supply, turns the canoe bottom upwards, and rubs it into the leak until the place is once more

water tight. Single paddles are commonly used; but double ones, like those used by the Greenlander in his "kyack", are occasionally seen.

About one hundred and twenty miles above Nulato, the trading village of Newicargut is found, a place where the Russians annually obtained a large number of furs. Here we met one hundred and fifty Indians, nearly all wearing the double-tailed coat much adorned with beads and trimmings, fur bags, and knife belts, etc. Many were painted on the face with spots and stripes of colour. It was now summer, and very hot. In the shade the thermometer stood at 72° (later it stood at 78°), and we found the Indians living in open booths, constructed of poles set up roof fashion, and covered with branches and boughs or pieces of birch bark. Some of them had small tents composed of cotton drill, obtained from the traders.

While the Russians who had accompanied us so far were trading for furs, we laid in a large stock—some 250lbs.—of dried deer and moose meat and pemmican. We were not over well provided with trading goods, and in common with all the men of our expedition, I had at times to give away my shirts, socks, pocket knives, etc. The chief at this village took a great fancy to my towel and soap, and as my companion Dall was well provided in this matter I gave them to him. At this juncture he caught sight of my tooth brush, and immediately asked for that. I need not say he did not get it; but I would recommend any future traveller to take nothing but absolute necessities, or else take all the little luxuries of civilisation by the dozen, as whatever they are unaccustomed to and see you make use of they immediately want. When they do hanker very much after any trifle, they will give a much better price for it; and this matter is of great importance, as the traveller in this country must mainly depend on trade for his provisions.

Whilst there we had an opportunity of seeing "Larrione", a Co-Youkon, make medicine over a sick man. A group of Indians encircled the invalid; in their midst burnt a dim fire. A monotonous chorus in an undertone was kept up, whilst this man went through an elaborate performance: some details of which are absolutely revolting, and cannot be mentioned. Now he appeared to draw the evil spirit from the sick man, and wrestling with it, threw it on the fire, and then repelled, ran wildly from it with much terror and affright. Now it had possession of him, and he gesticulated, groaned, and frothed at the mouth; the whole accompanied by a recitative, artistically managed in connection with the chorus. The whole affair was not unlike a weird scene in a sensation drama, taking into consideration the accessories, the over-hanging trees, the twilight, the low fire.

At last the performance assumed a gayer tinge, the chorus grew louder and livelier; the man was supposed to be dispossessed, and he hobbled from the scene. I should judge that the Indians were very divided in opinion on Larrione's merits: some, doubtless, thinking he was a great doctor, and others, from the expression of their faces, that he was a great humbug.

A hundred miles further up the river, and we reached the great trading ground of Nuclukayette, at the junction of the Tanana with the Youkon. We saluted this, and in fact every principal village on the river, with a miscellaneous discharge from revolvers, carbines, and shot-guns, and the Indians on shore returned it with zeal.

This place is the furthest point on the Youkon ever reached by the Russian traders. Hither come Indians from all quarters: their gatherings have numbered six hundred souls. The Tananas had not arrived, but we saw a number afterwards. I believe them to be the most unsophisticated natives to be met with at the present day. Painted faces, feathers in their long hair, a patch of red clay on the back of their heads covered with small fluffy feathers, double-tailed coats and pantaloons of buckskin much adorned with fringes and beads, elaborately worked fire-bags and belts, all combined to make them more like the ideal North American Indian I had read of, but hitherto had never seen.

On landing at this village, a ceremony had to be gone through, possibly to test whether we had "strong hearts" or not. The Indians already there, advanced whooping, yelling, and brandishing their fire-arms till they reached us, then discharged them in the air. We, with the Indians just arrived, returned the compliment, and then the chief whose acquaintance we had made during winter came forward and welcomed us. This man brought us a small present of sweet fat; but the village generally was bare of provisions, the Indians dancing and singing all the same, knowing that the season for moose hunting was at hand. The upper part of the Youkon abounds in moose, and myself and the Indians shot several. At this season the musquitoes are a terrible scourge, and even the moose finds them inconvenient. He leaves the wood, plunges into the water, and wades or swims, as the case may be, often making for the islands. In some cases the Indians surround these, when known to have moose or reindeer on them, and a regular *battue* ensues. In winter it is said that the Indians can by following the moose in the woods on snow-shoes tire them out, and so get near enough to kill them. In the water they are very clumsy animals, and the natives do not always waste

powder and shot over them ; but get near them in their birch-bark canoes, and stab them repeatedly till killed, then haul them ashore.

Passing over all details of a rather tedious trip through mountain gorges, and afterwards through an interminable number of islands and sand banks in the river, we arrived on the 23rd of June, 1867, at our destination, the Hudson's Bay Company's Fort Youkon, at the confluence of the Porcupine with the Youkon. Here we met the representatives of many tribes, numbering five hundred during part of the time, and all awaiting the opportunity to barter their furs with the commander of the post. They were camped outside the Fort, in tents, open booths, and "lodges." The latter are composed of poles and moose hides, and are generally placed two together ; the entrances of each facing the other, and a small fire burning between them. Each man, on arrival at the Fort, received a present of a plug of tobacco and a pipe ; and those who had no provisions, drew a daily allowance of moose meat during their stay from the supplies of the post. We here got into the buck-skin and mocassin country ; but we found the Indians wearing every variety of clothing, including those of a civilised kind, shirts, coats, "capotes", and pantaloons, obtained in the Company's store. The chiefs wore mock uniforms presented to them by the Company ; and one of them, the stout and jolly old "Red Leggings", was gorgeous in one with brass buttons, epaulets of overwhelming size, and a cap from which hung as many streams of ribbon as would set up ten recruiting sergeants for life.

We here met a large number of the "Kotch à Kutchin" (or lowland people), the Indians of the immediate neighbourhood. They are divided under two chiefs, and dwell on the Youkon itself and on Black River, a stream falling into the Rat or Porcupine River. They usually wore buckskin clothing with many fringes and ornaments, and all adopted mocassins. In winter they wear moose-skin robes or coats, with the hair turned inwards.

We met, also, examples of the An Kutchin tribe, who dwell higher on the Youkon (or Pelly, as it has sometimes been called at this part of the river), and are known by the *voyageurs* of the Company by the flattering epithet of "gens de foux." The Tatanchok Kutchin tribe, or "gens de bois," from the upper Youkon, the "gens de bouleau," or Birch river Indians, and the "gens de Rats," or natives of the Rat or Porcupine river, were all represented at this meeting. It is said that the leading men of some of these tribes having bought all the guns, blankets, knives, etc., they needed, had purchased and

accumulated immense piles of beads, of which they made no use, but simply secreted, miser like, in the woods.

But, as I have stated, the Tananas, or “gens de butte,” the “Knoll people,” or mountain men, as they have been termed, were the most primitive tribes we had seen at all, and large numbers of them mustered on this occasion. They were a highly decorated and painted race, and wear the nose ornament before spoken of, as do many of the other Indians here. A very high value is set on the hya-qua shells by them, and both the Fur Companies on the river traded in them largely. I have seen fringes and head ornaments which contained so large a number of these long shells, that they represented a value of several hundred marten in trade. Of the great river on which the Tananas dwell, next to nothing is known; but from information that I obtained at Fort Youkon, it is certain that its head waters are not very far from the Upper Youkon; and from the diminished volume of water in the Youkon, *above* its confluence at Nuclukayette, it is also an undoubted fact that the Tanana is a very large stream indeed.

The women of all these tribes, curiously enough, dress in a plainer manner than the men, and appear to do more drudgery than among the Lower Youkon and coast peoples. They adopt a loose “sack” garment, plainly cut, with large loose sleeves. In the Fort, many of the Indian women have adopted European clothing.

On the river below Fort Youkon, a people almost extinct, the “Gens de milieu” once lived; but the ravages—in this case, of scarlet fever—have hardly left one to tell the tale.

During our stay, the Rev. Mr. MacDonald, a missionary of the Church of England stationed there, held several services, addressing the Indians sometimes directly, and sometimes through the Fort interpreter. They listened with apparent attention, and joined in singing and chanting with great zest. This gentleman has taught some of the younger ones to read a little English. My friend the late Major Kennicott, when he visited Fort Youkon, from the Atlantic States, made a vocabulary of the principal tribe, in this neighbourhood, and it would be worth printing in connexion with this paper.

Leaving Fort Youkon, and descending the river, we found the Indians everywhere camped by the banks, engaged in catching and drying fish. The Youkon salmon of two—and I am inclined to think three—varieties is very abundant in the summer. One large kind, measuring sometimes four and a half or five feet in length, is very rich and oily. They are taken in weirs set in shallow places, in hand-nets of circular

form, and by spearing. I have seen, on the Lower Youkon, below Nulato, fishskin boots, the soles being, as usual, of seal-skin.

At the Ingelete village of Anvie, at the mouth of the river of the same name, a tributary of the Youkon, we saw native pots and jars of clay, well-fashioned, and used by them for cooking purposes. The Indians of the Lower Youkon, including the Primoske and Kwif-pak-ske, who dwell at and near the mouths of the great river, are of miserable appearance, and worse clothed than any others we had seen in the country. It is a fact that, owing to the shallow water of the Youkon or Kwich-pak mouths, free traders had not as yet entered that part of the country, and the Indians were, therefore, exclusively indebted to one or two badly supplied posts of the Russian-American Company. I am inclined to think that by this time, in the hands of its new owners, the United States Government, private traders are already thinking of sapping the fur-trade of this part of Alaska.

The natives of the lower river merge gradually into those of the coast, and do not call for any special remark after what has gone before. Fortunately for us, being short of goods, they were so unsophisticated that they always accepted what we offered in payment for fish, etc.; and needles, which they could not obtain from the Russian-American Fur Company, were of great value. We could buy a salmon for five needles, ducks and geese at about the same rate. Eggs are so abundant at the mouths of the Youkon, that one of our men, employed in taking sounding there, told me he bought ten eggs for one needle, and could obtain hundreds at the same price. On the lower river, also, is the "seat of manufacture" of the wooden bowls, or "contogs," used for hundreds of miles round.

Should this paper appear to you superficial and meagre in nature, it should be remembered that it is the fruit of rapid travel through a very large section of country. My journey from St. Michael's to Nulato, and subsequently to Fort Youkon made by the shortest known route, was 825 miles in length; whilst the return journey, exclusively by the Youkon and sea-coast, was nearly 1,300 miles in length. I believe that this country, so little known or visited, will repay a detailed examination, and it is quite within the possibilities that I may again travel in it; and if so, may again have the pleasure of laying something further before you.

In conclusion, allow me to very briefly lay before you a few remarks on the great similarity between the dialects of the natives of Norton Sound, and the Greenland Esquimaux. The first five words of my vocabulary are almost identical. Thus:—

		Malemute, Norton Sound.				Greenland Esquimaux.
<i>I</i>	...	Wounga	...	is	...	Uwunga
<i>He</i>	...	Oona	...	,	...	Una
<i>We</i>	...	Wurgut	...	,	...	Uwagut
<i>You</i>	...	Itlepit	...	,	...	Illipse
<i>Man</i>	...	Inuet	...	,	...	Augut

and so on. Between the Malemute and the Ingelete and Co-Youkon, a great gap occurs; hardly a word appears to be of the same origin; nor can I again find much similarity between the Co-Youkon and the Kotch-à-Kutchin of the *Upper* Youkon. I would venture to make the suggestion, that the coast natives have gradually spread from Asia to Greenland; whilst, it may be, we must look for some other origin for the natives of the interior.

With regard to the trade across Behring's Straits, I need not remind you that Von Wrangell, and other writers, have constantly alluded to the same subject. The only point I have wished to draw your attention to, is the great distance high up the Youkon, and from the interior, that furs are brought to the Tchukchis.

That all these people have some belief in a Great Spirit, and also in evil spirits, I have myself no doubt; but have hesitated to say anything on the subject, having never witnessed any religious ceremonies, or even heard of their existence. Indians are always very reserved on these subjects; and without an intimate acquaintance with their dialects, it is almost impossible to get at the truth. It is, too, in these days, even more difficult than formerly, from the simple reason that intercourse with traders, and also with the missionaries, (and there are two on the Youkon of very different creeds,—one representing the Episcopal, the other the Greek church), has, undoubtedly, modified their ideas; and therefore, it is difficult to distinguish between their old and their acquired beliefs. I can positively state, that we found no traces whatever of idolatry.

MALEMUTE VOCABULARY.

NORTON SOUND, RUSSIAN AMERICA.

Made in 1866-7, by Frederick Whympers, W. U. Telegraph Expedition.

<i>I</i> , wounga	<i>child</i> , kakooshka
<i>He</i> , oona	<i>brother</i> , ungarunga
<i>We</i> , wurgut	<i>sister</i> , hooga
<i>You</i> , itlepit	<i>day</i> , oblōok
<i>man</i> , inuet	<i>night</i> , niptiga
<i>woman</i> , achanuk	<i>morning</i> , oblaam

noon, kolwächtook
evening, nakokiluskuk
month, (see "moon")
sun, sickuyuk
moon, tackhut
star, obloat
land, noona
water, imuk
sea, tagaiuk
lake, nasuuk
river, coke
snow, kanik
ice, sekō
rain, chwīnuktuk
head, neakuk
face, keenyuk
mouth, kanuk
teeth, kecūtik
arm, tālik
leg, neeyu
hand, ashi-gitō
window, egalook
house, topek
wood, kushuk
canoe, ship, omek-puk
knife, chowik
spoon, athrotik
cup, culoot
pot, klipseen
tree, napāktuk
gun, shupon
powder, agara
cups, cabiloo
bullet, cagarook
shot, cagariya
(skin) coat, atigee
 " *trousers*, nellikāk
 " *boots*, camook
 " *cap*, nasota
 " *gloves or mitts*, akatook
hay, ewcek, penikiruk
rope, akloonuk
chief, amāleck
pipe, queenuk
tobacco, tabac
needle, mitkin
thread, evaloot
bag, powuskuk
bread, kakook
fish, ekathethlook
bird, ekāshiga
(reindeer) meat, nāga
sugar, kapsitaak
whiskey, tānuk
berries, ashcuk
grease, ookarook

beaver, palouktuk
sable (*American sable* or *stonemarten*),
 kavaitechuk
mink, tagaiakpuk
bear, aoutkluit
squirrel, chikiruk
reindeer, toontook
dog, camuckter
mosquito, kecktagiuck
whale, akiwik
seal, oogarook
walrus, aiwik
wolf, amaouk
big, ungidooruk
little, mikidooruk
few, ekeektuk
plenty, amalachtok
good, nakuruk
bad, ashuruk
quick, kelūmuk
slow, sikicluk
cold, allopar
hot, a'lopar peechuk (not cold)
crooked, chakoonaruk
straight, nalooruk
yes, waa
no, not, peechuk
what, schuman
where, nāmi
here, māui
now, puk-mummi
bye and bye, atachta
who, keena
how much? *capsenik*
don't know, kiyūmē
come here, cakineē
go away, anee
go on a journey, alachtuk
work, chawitka
see, touk-took
give, aichilunger
buy, etauchsik
sell, keepuchuk
laugh, kachuktuk
talk, ocactuk
tell, kanucktuk
bring, taishkē
dance, poolaruk
sleep, shineek (used to count time,
 "so many sleeps")
kill, takootka
shoot, shoopega
understand, tooshiruk
steal, tigaliktook
how much for that? *chimuk*
thank you, koyana.

NUMERALS.

1. Atousik	7. Malounik shepnelik
2. Ipar	8. Peenesheluk shepnelik
3. Peeniuk	9. Kolingniotilik
4. Seetimat	10. Kolit
5. Talemanuk	11. (Ten and one, and so on)
6. Echukerit	20. Enuenuk.

COYOUKON VOCABULARY,

Made by Frederick Whympcr.

LANGUAGE SPOKEN ON A LARGE PART OF THE YOUKON RIVER, IN RUSSIAN AMERICA.

Good Spirit, Kanuckertoltoi
Bad Spirit, Tcheklakcr

I, sě
thou, nē
he, ecossee
we, seyer
you, shē
they, nun
man, tenalō
woman, saltun
child, tenaiyusa
brother, skitla
sister, stādsa
head, se-woiyer
face, senun

forehead, sekāta
eye, se noya
ear, se-tsa
nose, se nee
mouh, s'alotte
tongue, s'acloula
tooth, s'uwyer
neck, s'ukugl
arm, sekāncr
hand, se lur
body, s'kotit
leg, sewool
foot, se ka
bone, klun
heart, se-naiyitz

All the foregoing words, with the prefix "se", meaning here "my", are, in *Ingelete*, changed for the prefix "ten" (the first syllable of "tenalō," man). Thus the Coyoukon says, "senaiyitz" (my heart), while the Ingelites says "tenaiyitz" (a man's heart), when asked for the name of heart in their language; and so on. There is no doubt that the prefix is altered according to the person: thus, "your heart" would be "she-naiyitz.

chief, kooka
house, konaugh
village, zadlecle
canoe, metau
paddle, tauloi
bow, klintun
arrow, káu
gun, eltudla
caps, onunkadadoi
powder, kaukoon
bullet, kautla
shot, koon
knife, kakikltaun
pipe, koniuk
tobacco, tabac; tacona (fire)
(skin) coat, taiak
„ trousers, katchee
„ shoes, kakatauch
„ cap, kakadalaion

kettle, oclock
axe, mukalklalla
flour, klatsmitze
fire, tacona
water, too
ice, t'un
snow, nootaga
sun, s'o
moon, taltolla
star, k'lune
day, k'lut
night, kliltahl
morning, kadamatona
evening, lalaatsun
summer, sāner
winter, koidau
wind, atse
rain, al'corn
river, suckener (secargut, small river)

mountain, klehl
island, taash
valley, tekalcul-cul; konakon
stone, rock, l'orna
tree, chooma
wood, kaut
swamp, munacut
birch tree, ki'e
spruce fir, chumä
bowl, kluck
beads, neltilla
blanket, t'suda
needle, klatakona
bag, melketla
berries, keeka
fat, n'kau
reindeer, anoyer
 " *tongue*, kakloula
moose, tanaiger
rabbit, kaugh
bear, klaousa
marten, carkayousa
mink, tauchkousa
beaver, carka
dog, k'lick
wolf, yes
grouse, telerbucker
duck, nintaal
goose, titsena
fish, telamachkur
mosquito, kl'ë
big, nekau
small, nacoutza
strong, kooteclear
old, klokee

young, ataltahai
good, nazoon
bad, zatklaka
dead, tult'lun
alive, toitlala
cold, azoo
hot, azoo micullah (not cold)
yes, ha
no, not, micullah
many, lorn
far, neelot
who, te wa
where, houghtee
yesterday, katona
to-day, autakut
to-morrow, katooman
sleep, littern
sit, litto
give, entar
talk, tini
shoot, teltüdlä
work, konitine
now, atakauch
bye-and-bye, k'lat
quick, tow-wer
all, etedsun
hungry, kutlakat
enough, koodar
come here, orni
go away, antouger
how much? tenaltai
thank you, marci
how are you? koyana
don't know, testini

NUMERALS.

1. Ketlelet
2. Untë
3. Taunkë
4. Timikë

5. Ketsnala
6. " *five, one, etc.*
10. Nekoshnala

KUTCH-A'-KUTCHIN VOCABULARY.

Compiled by the late Major Kennicott.

Words from the language of the Kutch-a'-Kutchin,—Natives of the Upper Youkon, in Russian America.

Good Spirit, Ti'h-hü-gun.
Bad Spirit, Chu't-sai.
man, tin'-ji
woman, trin'-jöh
boy, T' tsi-ah
girl, nī-chit
infant, tri-ny'in'

father, ti'h
mother, hun
husband, kái-ih
wife, at
son (of father), ün'ji
son (of mother), zūh
daughter (of father), chi

daughter (of mother), gē'-tsi
brother (elder), dē
brother (younger), chāh
sister (elder), chih
sister (younger), chidh
an Indian, tīn-jī
people, tīn-jī
Indian fashion, or in the manner of
Indians, tīn-jī-zūh
white man, man-o-tlīt
head, tī'-chih
hair, e-gēh
face, chī-nēh
forehead, tchun'-t'tsut
ear, chē'-tzēh
eye, chīn'-ēēh
nose, chīn'-tsih
mouth, chē'-zhīk
tongue, chī-chā
tooth, chā-gōh
beard, chī-tē-ai-gēh
neck, chē'-kōh
arm, chē kī-in
hand, chīn-lī
fingers, lā'-t'thuk
nails, chē'-kai
body, chē'-znk-taih
belly, chē'-vut
leg, chī-dhudh
foot, chē'-kēh
toes, chē'-kēh-chī
bone, t'-thun
heart, chī'-t'trī
blood, tāh
chief, kāh-kēh'
warrior, (no name)
friend, sē'-chī-āh
house, zēh
Indian lodge, nī-vī-āh'zēh
village, zēh-kēh
kettle, tī'-āh
arrow, kī'-ē
bow, uhl'-tīu
axe, tā'-iuh
knife, rsih
canoe, t'trīh
paddle, tāh-iuh
boat, t'trīh-chō'h
raft, hkāu
Indian shoes, kēh-trīh
bread, klī'-uth-chū
flour, klī'-uth
ashes, klī'-uth
earth, klī'-uth
pipe, sē-tīd-chī
tobacco, sē-tīd

sky, zī'-ē
horizon, zī-ē-ban^h
cloud, k'kōh
sun, drīn-ūr'-zih
moon, tudh-ūr-zih
star, suⁿ
day, drīn
light, a-t'trī
night, hkāh
darkness, tudh
morning, vun
evening, nā-chī-aiⁿ
spring, taiⁿ
summer, s'sīn
autumn, hkain'-sun
winter, hkai
wind, a'kh-traih
lightning, nāh-tun'-kun
thunder, nāh-tun'
rain, tsīn
snow, zāh
hail, chīn-lūh
fire, kōⁿ
Aurora Borealis, yā-kaiⁿ
water, chuⁿ
ice, t'tun
land, earth, nun
sea, chōⁿ-chōh
river, hun
lake, vun
valley, kū-nā'-trī
mountain, d'dhāh
island, njūh
stone, rock, chī
copper, thē'-tsraⁿ
iron, chī-tsīh
tree, tē chun'
wood, tē chun' or tsrōh
leaf, chīt-un
bark, bā-trī
grass, k'klōh
poplar, t'tōh
birch, hkā'-t'tōh ; alder, kōh
willow, kaih-tluk'
spruce, t'tsī-vēh'
flesh, meat, s'sīh
dog, hklaiⁿ
buffalo (fossil), ah kīh'
bear (black), s'sōh
wolf, zōh
reindeer, vut-zaih'
moose, tīn-jī-yuk'
beaver, tsē
fox, nā-kudh, or nā-ku^{ndh}
squirrel, k'kluk'k
marmot, t'thāh

rabbit, kēh
fly, tiⁿ.
mosquito, chih
bird, tzih'-tsōh or ni'-un
egg, chā'-h'gōh
feather, tsuth
wing, chut-sun
duck, tē-tsun'
goose, hkēh
fish, t'hlūk or chī'-ē-lūk
salmon, thlūk
name, vōr-zih
affection (*I love him*, vat-i'-ni-thun)
white, tā'-kaii
black, tā'-rziⁿ.
red, ta-ts'ik'
blue, no name, they call it "black"
yellow, tā-tsōh'
green, tāh'-rlōh
great, ni'-tsih or choh
small, nēt'-tsul or tsul
strong, nit'táih
old, saiⁿ-yi-dhēlh-hkai
young, kē-chīt-ē'-dhā
good, nir-zih'
bad, ni-zīⁿ-kwāh
handsome, mē-go-ná-thlih

ugly, trā-rud'i-udh
alive, kōn'-daii
dead, ehl-chiⁿ
cold, nī-k'kudh
warm, nī-dhā'
I, si
thou, nun
he, tā-tun
we, nākh'-hun
ye, nākh'-hun
they, kā tā'-t'tun
this, chī
that, tā'hgut
all, tut-thuk'
many, much, laiⁿ.
who? chō'-ti-ēn?
where? kwē'-ē-chī?
near, nāh'-k'kōdh
to-day, chūk-dsrin'
yesterday, k'kāh'-taiⁿ.
to-morrow, yih'-kāh
yes, a-hā
no, rj-kwā'
sit, dhīm'-tih
stand, nī'-nē-dhut
come, a-nē.

NUMERALS.

one, chih'-thluk
two, nē'-kaiⁿ.
three, ti'-ik
four, tāng
five, chih'-tluk-ūn'-l
six, nih'-ki-ti'-ik
seven, ē'tsē-dē'-tsē-nē-káiⁿ.
eight, nih'-ki-tāng'

nine, mēn'-chudh-nē-kōh'-kwā
ten, chī-thluk'-chō-ti'-in
eleven, chī-thluk'-vi-dā-tuk
twelve, nē'-kaiⁿ-vi-dā-tuk
thirteen, ti'-ik-vi-dā-tuk
twenty, nē'-kaiⁿ-chō-ti'-in
thirty, ti'-ik-chō-ti'-in

XIX.—*On the Wild Tribes of Southern India.* By JOHN SHORTT, M.D.

[Read April 14th, 1868.]

THE present paper is a continuation of a very able one by the same author, published in the third volume of our *Transactions*. The materials seem to have been furnished to Dr. Shortt by the Medical officers of seven of the Madras districts; namely, Nellore, Tinnevely, Salem, Berhampore, Cuddalore, Chingleput, and Guntoor.

Dr. Lloyd, the Zillah Surgeon, Nellore, names the chief wild tribes of the district under the terms of Yanadies, Yerkalas, Sukalies or Lumbadies, and Dombas as among the chief. The tribe of *Yanadies* in that district were estimated in 1856 at twenty thousand. The inland men were said to be somewhat more robust than those found on the coast, and it would appear that they in no respect differ in their habits and customs from the Yanadies of Streehurricottah already described by Dr. Shortt, *vide* Proceedings of Government, No. 836, dated 17th May, 1864, Revenue Department.

The *Yerkalas* are recognised as *Koravers* in the south, and are sometimes termed wandering gipsies, from their roving habits. They eat game and flesh meats of all kinds, in which they are by no means nice; the jungle herbs, roots, and fruits, also, furnish them with food. The majority of them pretend to fortune telling, to which practice men and women are addicted. They also take to basket, mat, and wooden comb making—for the former two they use the midribs and leaves of the date palm—and occasionally work as coolies; sometimes wealthy men of the tribe settle down in places, engage in cultivation, and hold land in puttah like other ryots. There appear to be many subdivisions among them, which chiefly consist in the variety of their occupations: most of them confine themselves to particular ones, such as firewood sellers, salt sellers, basket makers, and coolies, etc. There is nothing very remarkable in their physical conformation; they are usually dark coloured, average a very dark brown. In physique and intelligence they are superior to the Yanadies, and inferior to the other low caste Hindoos, who are supposed to be more civilised. Their bodies are usually very filthy, and, as a rule, they wear no clothing, except a small piece of cloth. As a race, they are low in the scale of civilisa-

tion ; and, while they pretend to a show of industry during the day, there is no doubt, from the large proportion they form as inmates of jails, that their habits at night are decidedly of a predatory nature. They form bands of dacoits and thieves, and prefer living by theft than by honest industry. The crimes they are addicted to are dacoity, highway robbery, and robbery. They are said to be the most troublesome of any of the wanderers. The men are of a spare, light make, and possess a hardy constitution. They tie their hair in a knot over the forehead. Forehead low, eyes small, nose comparatively short, and their general appearance indicates more of cunning than intelligence. Their huts comprise mats set upon three sticks ; and, when on the move, these they roll up and place on the backs of their donkeys, and are thus easily transported from place to place. They rear pigs, and are extremely partial to their flesh ; they also keep poultry and dogs. Their pack animals consist chiefly of donkeys ; occasionally some of them have a few horned cattle, and perhaps a few goats also. The same wandering, erratic, and lawless habits seem to prevail among this tribe wherever met with in any part of the Presidency.—For further information, *vide* an article in the *Madras Journal of Literature and Science*, vol. xvii, January to June, 1851, p. 4, by Assistant-Surgeon (now Deputy Inspector-General) Edward Balfour, Madras Army.—A similar tribe under the name of Qopookoraver is described by Dr. Bilderbeck as found in South Arcot. Their language seems to be a medley of Tamil and Telugu. They have rude ideas of religion, and will worship any Hindoo Deity: their old men are the priests of their community. Most of them have some household god, which they carry about with them in their constant travels. Polygamy prevails among them, and the number of wives is according to the means of the husband: the marriage string is always tied round the neck of the wife. Marriages are only contracted between adults. The ceremony is usually conducted on a Sunday, preceded by a poojah on the Saturday. Rice mixed with turmeric is bound on the heads of the married couple, and when the marriage string is tied the ceremony is complete. Marriages within certain degrees of relationship are not allowed, and widow remarriages not permitted ; they may occasionally live in concubinage. A custom prevails among them by which the first two daughters of a family may be claimed by the maternal uncle as wives for his sons. The value of a wife is fixed at twenty pagodas. The maternal uncle's right to the first two daughters is valued at eight out of twenty pagodas, and is carried out thus:—If he urges his preferential claim, and marries his own sons to his nieces, he pays for each only twelve pagodas ; and, similarly, if he, from not having

sons, or any other cause, forego his claim, he receives eight pagodas of the twenty paid to the girl's parents by anybody else who may marry them. The value of a wife differs in different places: in some places they are very much less, and in others again only nominal. There is a kind of clanship among these people. Each gang or community comprises many distinct families, each having their own family names, and, like the Hindoos, they form undivided families. As regards their *origin*, vide Brown and Campbell's definition of the word *Yerkalavandla*, as also Wilson's definition of *Kulaver*, *Yeraver*, and *Kuraver*, etc.

Chenchoos.—These are principally met with in the Velagundu Hills, which form the western boundary of the district. Their chief habitation is the Nundikana Pass, on the road between Cumbum and Ghooty. Though not found in the district, they frequently visit Nellore, and are recognised as "*Bonta Chenchoovandlu*," from, it is said, a kind of patchwork tent or booth, made up of pieces of cloth stitched together. They come in only at the time of Pongul and Siviratri, and such like high festivals, when great crowds are assembled, bringing with them bamboo rice and bamboo flutes for sale; the latter they play upon and sell, returning to their homes on the termination of the festival. The Chenchoos on the Nundikana Pass are chiefly employed as watchmen and guides. They live essentially by hunting, in which they are very skilful, using darts, which they throw by hand. They also possess firearms, visiting the villages in the vicinity for procuring supplies of powder, etc., as required. Excepting on these occasions, they never quit their hills. Some of them take to breeding horned cattle, sheep, and goats in a small way; but they never engage in cultivation, even of the rudest kind. They collect wax, honey, and other jungle products, and sell them to traders. They eat bamboo rice, jungle root, and ragee when they can get it, with all kinds of animal flesh. They kill deer, wild boar, hares, etc. They build themselves small round huts, having walls of mud and stone about a yard high, and roofed with bamboos and jungle grass, in clusters of ten or fifteen, each being presided over by a headman. Their colour is black or dark brown, never lighter. They wear piece cloths, and sometimes a cloth round the waist. They ordinarily wear their hair tied in a knot, and have no head cloths, but many of them make for themselves caps of skin. Besides the *Bonta Chenchoovandlu* above-mentioned, another division is said to inhabit the interior of jungles, which they seldom or never leave, and they are represented as being in the habit of wearing aprons formed of leaves. They speak a dialect which is unintelligible

to strangers, but it is understood by those who live near the Hills inhabited by them, and who state that it is a corrupt dialect of Telugu. The Chenchoos practise polygamy. They worship a god called *Chenchoodavadoo*, and to whom they pay daily poojah.

Woddlers, or *Woddarandlu*.—These are tank diggers, and are common throughout the country. They engage in the carrying trade, but more frequently move about from place to place in search of work. The word *Woddi*, or *Odde*, is said to be a corruption of the Sanskrit *Odrha*, the name of the country now called Orissa. The people are supposed to have originally emigrated from the Ooryah country. Besides Telugu, they are said to have a peculiar dialect among themselves. They have nothing peculiar about their rites and ceremonies. Widow re-marriage is permitted; occupation, labourers. There are some fine well-made men among the tribe.

Khonds.—Dr. Howard gives a brief account of the "*Khonds*" in the vicinity of Berhampore. They are described as social, easily excited, with little or no caste prejudice, and more truthful than the natives of the plains. In physique they are well developed, wiry, and active. From an average of thirty-nine Khonds in the jail, their height is given as 5 feet 5 $\frac{3}{4}$ inches, and their average weight eight stone, with their muscles well developed, and their tendons standing out firm and hard. They have an upright gait, carrying their heads erect; straight black long hair, generally twisted and knotted into a comb either on the right or left side of the head; straight noses; narrow nostrils; thin lips; not high cheek bones, black eyes, and slightly projecting lower jaw, with (generally) oval faces, giving one an idea of a mixed origin from Caucasian and Mongolian; teeth white and regular. They partake of cooked food, prepared in the simplest manner. Their ordinary food consists of the farinaceous products of the hills in the vicinity. They seldom indulge in animal food, except on festive occasions, when it is accompanied with the usual toddy and palm juice, to aid them in their convivial enjoyments.

Lubbays.—Dr. Bilderbeck describes the *Lubbays*, who are said to be found in large numbers on the Eastern Coast, chiefly between Pulicat on the north and Negapatam on the south; their head quarters being at Magore, near Negapatam, the burial place of their patron saint Naghore Meera Saib, to whose shrine numerous pilgrimages are made by the tribe. They are believed to be the descendants of Mahomedans and Hindoos, and are supposed to have come into existence during the Mahomedan conquest, when numbers of Hindoos were forcibly converted to the Mahomedan faith.

They are followers of Mahomed, and practise circumcision. Physically, they are a good looking race—tallish, of light complexion, and well developed limbs, not unlike the Moplahs of the Western Coast in their general configuration. The Lubbay cranium is singularly and strikingly small; the eyes are slightly oblique, and not wanting in expression; cheek bones prominent; lower jaw large and heavy; beard in some instances full and long, but in most cases decidedly sparse. As a class, they are tall, well made, and robust, and are sometimes inclined to obesity. They are generally attired in loongees (cloths loosely fastened round the waist and extending below the knees); they also wear bright coloured jackets, occasionally turbans; the most frequent head gear being a skull cap, fitting closely to a shaved head. Like Mussulmans, they live freely on animals and vegetables, making use of all kinds of flesh meats, saving pork, for which they have a religious abhorrence. Their language is Tamil, though some talk a little Hindoostanee. They are exceedingly industrious and enterprising in their habits and pursuits, there being hardly a trade or calling in which they do not try to succeed. They make persevering fishermen and good boatmen. They are lapidaries, weavers, dyers, mat makers, jewellers, gardeners, bazaarmen, grocers, boat makers and owners, and merchants. As regards the leather and horn trade, they excel as merchants; in short, there are few classes of natives in Southern India who, in energy, industry, and perseverance, can compete with the Lubbays.

Dr. Wilson describes the Lubbays in his district (Tinnevely) as descendants of Arab traders, who settled on the sea coast town some three or four centuries ago, and formed connections with females of the lower caste of Tamulians. They are believed to be religious fanatics, much more so than pure-blooded Mahomedans.

Dr. Wilson also describes the *Maravers*, *Shanars*, *Vellalers*, *Naicks*, etc., whose language is Tamil, and whom he supposes to be the descendants of Turanians and Scythians.

Maravers.—These are believed to be the ancient inhabitants of the plains, who became subject to Hindooism by the influx of Brahmins among them from the north: who, having emigrated from their native place, settled down on the banks of the fertile rivers, carrying with them a knowledge of civilisation, and instructing the people in the knowledge of letters and divisions and subdivisions of castes, probably some six or seven centuries prior to the Christian Era. The Maravers are believed to constitute the greatest bulk of the population of the district, numbering over one hundred thousand, and to be descendants of lineal representatives of the Pandean dynasty,

which flourished from B.C. 500 to the fifteenth century. Subsequently the capital of the Pandean kingdom was established at Madura, embracing the Madura and Tinnevely districts. The Maravers are a robust hardy race, dark skinned (almost black), athletic, active, of medium height; muscular system fully developed; forehead rather low; cranium rounded, narrow in front; eyes large and full. They are believed to be by birth and profession thieves and robbers; and have been from time immemorial employed as village watchmen, for which service they are paid in kind by the villagers for the protection of their property. They are honest and honourable to their trust in their own village; but at night form large gangs, of from fifty to one hundred, at remote places, with a view of pillaging villages. If thwarted in their designs on these occasions, they become reckless, and frequently commit murder. To avoid being taken, they divest themselves of clothing and oil their skins freely. Some notorious character having been selected for a leader, their meet takes place at some distance, and quite in a different direction, from the village intended to be plundered, so as to throw off suspicion. They carry short stout sticks, having one end loaded with two, three, or more iron ferrules, in the use of which they are great experts, more especially in the manner of throwing their sticks: they often kill game at full speed in this way. They make use of all flesh meats, except beef. Their hair is worn long, and put up after the fashion of the women of the Deccan. They seldom cover their heads; the few who do so simply tie a long coloured handkerchief about the head. In their marriages, difference of age or the absence of the bridegroom is of no consequence; the ceremony is contracted by the friends and relatives of either party, without the consent of the individual himself, and a block of wood is employed as proxy for the absent groom; and who, should he be absent from the village, knows nothing of the rite until his return, when he finds a wife ready to receive him. The rules of the tribe enforce the acceptance of the wife selected for him without his knowledge and consent. But these marriages are as readily dissolved as they are contracted—all that is necessary being for the dissentient party to cut the marriage string or thalee, and all is over. The man is bound to take charge of and support his children. The people are not slow in taking advantage of this easy system of dissolving marriages. Their religion is a species of demonology and the worship of evil spirits, to whom bloody sacrifices are offered occasionally. There are devil-dances, which are introduced especially during the prevalence of cholera or small-pox, when the whole village is thrown into a state of excitement. It is

firmly believed that the spirit of a deceased British officer is worshipped in the Tinnevely district with offerings of tobacco and spirits. Their dead are either buried or burned, whichever is found the easiest to accomplish.

Shanars.—These are believed to be emigrants from Ceylon, from whence they migrated during the Pandean dynasty, and found their way into Madura and Tinnevely, bringing with them the palmyra palm seed; and, having obtained the sandy wastes of these district coasts, began their cultivation, and up to the present time claim seigniorage over these tracts. They are said not to be descendants of the Cingalese race, but to belong to some ancient Tamil people, who are said to have colonised the north of Ceylon at an early period of the Chala and Pandean reigns. Their language is Tamil, and they come next to the Maravers in numbers, and a very large proportion—more than one-half—are either Protestants or Roman Catholic Christians, whilst their Heathen fellows practise demonology, with its attendant bloody offerings and devil dances, when one or more become possessed of the devil, and get quite excited with their frantic gestures and violent exertions, and are consulted by the people as to their fortunes and prospects, etc. At present their chief occupation consists in attending to and collecting the juice of the palms. Each man will attend to some fifty palm trees. These he ascends and descends night and morning for about eight months in the year; and, at an average, each man may be estimated to traverse the ascent and descent of an height equivalent to five thousand feet daily. They are not so good looking a body, either in physique or features, as the Maravers: being dark skinned, with low foreheads, sunken eyes, and prominent cheek bones, and constituting a race of very timid and superstitious people.

Paravers.—Fishermen, said to be a subdivision of the Pariahs, live in villages along the sea-coast, and follow the occupation of fishing. They own a number of canoes, and proceed several miles out to sea before daylight—they return again about noon; use nets, hooks, and lines. They are nominally Roman Catholics in creed: their ancestors are said to have been converted by Xavier—they certainly observe the Sabbath. As a race, they are addicted to drink, and are dissolute in their habits. They are dark and almost black skinned, with no distinguishing physical appearance from that of the lower classes of Tamil people.

Malai Araser.—The most interesting of the tribes next in order are the *Malai Araser*, or Hill kings, of whom little seems known as yet. They are found inhabiting the range of ghats between Tinnevely and Travancore, and probably do not exceed

five hundred in number, living in small communities, five or six families consorting together. Their huts consist of a few erect sticks, closed in with the bark of trees, and thatched with grass. They live on the produce of the jungles—wild roots, yams, honey, etc.; and, within the last twenty years, they have taken to cultivate a small supply of potatoes for their own use. This stock was originally given them by a former collector; but the tubers have much degenerated, and are now very small. The only animals about them are fowls and dogs. They rarely descend to the plains, and their language is a corruption of Tamil. They are a diminutive race, pot-bellied—probably from enlarged spleens and unwholesome food, and from living within fever range. They have long black tangled hair—a few partially shave the head; cranium small and pear-shaped, rising to a point about the junction of the occipital bone and sagittal suture; forehead low and retreating; flat nose; small eyes; high cheek bones. They are a very miserable race, and very low in the scale of civilisation; averse to intercourse with strangers; and resort to bows, arrows, and lances, and catch wild animals in pits and traps of their own construction.

Chucklers or Cobblers.—These are considered low in the social scale, and are met with in every district. They eat all kinds of animal food, and are particularly partial to horse flesh, and will carry away and devour all diseased carcases of horses, even glandered animals. In some places they, like the Pariahs, claim as their peculiar perquisite all cows, buffaloes, horses, and tattoos, that have died of disease in their vicinity, over which they frequently quarrel, the quarrel sometimes terminating in murder. As a class, they are a dissolute disorderly body, given to intoxication, and carry out the functions of hangman in all stations where individuals are legally executed.

Naicks and Reddies.—These are believed to be a subdivision of the Sudra caste—Telugu descendants of those who subverted the Chala and Pandean kingdoms about the fifteenth century of our era. Their kings ruled at Madura, but had to succumb in 1736 to the Nawab of Arcot. Their language is Telugu. There seems but little difference between Naicks and Reddies. They are tall, muscular, and well made, and are the finest class of men found in the district; they make excellent soldiers. The great trouble caused during the Polygar war in 1801 was owing to the Naicks. They occupied then mud forts in dense jungles, but now they are a quiet and well disposed people. They use all animal food, saving the cow. Their cultivation consists chiefly of dry cereals from the want of irrigation—Cumboo (*Pencillaria spicata*) and cholum (*Sorghum vulgare*) are the chief. The males wear a pig-tail, or "*Kudumay*,"

and on the death of parents shave this as well as the moustaches, in token of mourning. A singular custom exists among the Reddies as regards marriage: a young woman of sixteen or twenty years of age may be married to a boy of five or six years! She, however, lives with some other adult male, perhaps a maternal uncle or cousin, but is not allowed to form a connection with the father's relatives; occasionally it may be the boy husband's father himself—that is, the woman's father-in-law! Should there be children from these liaisons, they are fathered on the boy husband. When the boy grows up, the wife is either old or past child-bearing, when he in his turn takes up with some other "boy's" wife in a manner precisely similar to his own, and procreates children for the boy husband.

Both these classes either burn or bury their dead, accompanied by the usual music and other tomfoolery. On the 3rd, 9th, and 16th day various ceremonies are carried out after the manner of Hindoos.

XX.—*On the Custom of Burying and Burning Alive of Lepers in India.* By Dr. ARCHIBALD CAMPBELL.

[Read June 9th, 1868.]

I BEG leave to bring to the notice of the Society that two new and very savage rites, which are still practised in Rajpootana and other parts of India, have only now been brought to light, notwithstanding the very long period of our intimate acquaintance with the Hindoos, and the great number of acute observers and eminent men who have written on their habits and customs. One is the burying alive of persons afflicted with leprosy; the other—if possible still more inhuman—is the burning alive of the same objects of commiseration.

The following notices of these horrid practices are from one of the Indian journals:—

An Inhuman Rite still Practised.—Samadh—signifying burying alive—is not so familiar a word as suttee, thuggee, or infanticide, but it appears that this kind of self-immolation up to this day prevails in some of the Rajpootana states. And it has been reported as not unknown even in Cashmere. In a letter, dated so late as April 2, the Governor-General's agent for those states observes that, the better he becomes acquainted with the province entrusted to his political supervision, the more he perceives that the state of society in all the southern and western portion of it is beyond measure backward and rude. Not only do we know but little of what transpires, but the chiefs themselves have neither information nor power of control in their own territories. Three samadhs are reported as having occurred during the past year; and a record is also given of nine cases extending over six years, with reference to which several depositions were taken. These seem all to have occurred in the Scrohi and Marwar states, and were confined entirely to lepers: who when wasted with disease prefer death to an existence in which life is a burden, and their very persons objects of loathing to themselves and their relatives. The circumstances are all very similar. A poor suffering wretch, influenced perhaps by priests, by relatives glad to get rid of him, and by consciousness of his own noxious condition, expresses a desire to bury himself alive. The relatives for two or three days remonstrate and endeavour to dissuade, but he is firm; some of the nearest relatives then get up a procession, dig a pit, the

doomed man voluntarily enters it, his friends heap up and beat down the soil, and the whole of the villagers witness the sacrifice. A few days subsequently the mob visits the afflicted house, opium water is drunk, and the taint is removed. The rite, inhuman as it is, seems to have been long practised; nothing is hidden or denied, those concerned saying that it is the established custom of the country. Past offences of this character can scarcely be punished, but there is not the least doubt that the abolition of *samadh* will be as readily and generally accepted as the forbiddance of *suttee*. The rulers of Marwar and Serohi have been addressed on the subject, and both have now proclaimed any connivance in the rite a criminal offence punishable with ten years' imprisonment.

Burying Alive.—The *Friend of India* comments on the report of the political agent at Serohi regarding the crime of *samadh*, or burying alive, as practised in Rajpootana. He is possibly not aware that the barbarous practice still lingers in our own provinces. The north-west police report for 1866 describes a case of *samadh* which occurred in that year in the Jounpore district. The crime, however, in that instance was perpetrated "with a difference." The victim, a leper, Purein Singh, was placed in a hole seven feet deep, and there *burnt to death*. The excavated earth was then piled over his remains. The report of the district superintendent of police explains this variation of treatment by the Hindoo superstition, that if the leprous member of a family be *burnt to death*, the *whole family* will be safe from the dreadful disease. In this Jounpore case it was said that Purein Singh encountered his terrible death quite voluntarily. Nevertheless seven aiders and abettors were committed to the Sessions under sections 302 and 306 of the Penal Code.—*Pioneer*.

XXI.—*On the History and Migration of Cultivated Plants producing Coffee, Tea, Cocoa, etc.* By the late JOHN CRAWFORD, Esq., F.R.S., President of the Ethnological Society.

[Read June 9th, 1868.]

THE plants of which I propose to render some account in the present paper, being neither narcotic, like tobacco and opium, nor stimulating and intoxicating, like fermented and distilled spirits, may, I think, be classed as “exhilarants.” They were all unknown, not only to the people of ancient, but of medieval Europe. Indeed, down to the beginning of the seventeenth century, they were unknown even to modern Europe. Yet they have produced in Europe, in the course of two centuries, such a revolution in habits and manners that I feel justified in considering them as coming legitimately within the province of ethnology. They are the familiar commodities, coffee, tea, and cacao; the first of which we owe to Abyssinia, the second to China, and the last to Mexico,—remote regions, all of them as unknown to Greeks and Romans as they were to one another.

I begin with coffee. The *Coffea Arabica* of botanists belongs to the same natural family of plants as the Peruvian bark or cinchona, namely to the *Rubiaceæ*. There are, at least, a dozen species of the genus to which coffee belongs, but it alone is cultivated, and yields the coffee of commerce. The plant, although taking its scientific name from Arabia, is not a native of that country, but of Abyssinia and the neighbouring parts of Africa, where it is still to be seen in the wild state. From these countries it was brought to Arabia in comparatively recent times. Mr. Lane, the learned translator of the *Arabian Nights*, tells us that this happened about the year 1450. It was not known to the Arabs, therefore, until 823 years after the Hejira, and its introduction into Arabia dates but forty-two years before the discovery of America.

Dr. Beke informs us that the Arabic name for the berry, and, it may be presumed, for the plant also, is *bun*, which he supposes to be an African word. The name for the decoction of the roasted berries, however, is *kahwah*, an old Arabic word for a kind of sweet wine or fermented liquor; and it is this word which has found its way, in many forms, into all the languages of Europe, as well as into some of those of Asia. Thus, we have the word in French as *café*, in English as coffee,

in Spanish as *café*, and in Italian as *caffé*. All these are, in fact, taken immediately from the Turkish pronunciation of the Arabic word, which changes the labial consonant *w* into *v*, which the Europeans have again converted into an *f*, while they change the final vowel-form into *e*, and omit the aspirate.

The consumption of coffee in Arabia had to encounter a difficulty in its commencement on account of its unlucky name, the Mahomedan doctors, who unite in their own persons the three learned professions of Europe, denouncing it on this ground as an unlawful potation. In time, however, coffee beat the doctors, and became a favourite beverage with the Arabs, and like tobacco, equally unknown to the Arabian prophet, the more so that it was a substitute for what was forbidden. From Arabia it spread to Turkey, and from Turkey it found its way to Europe. The greatest curiosity about the use of coffee is the discovery of its property by roasting, as the seed in its raw state is insipid until its virtues are developed by a partial torrefaction. Who discovered this process is not known; but it was most probably the Arabs, for the Christians of Abyssinia, on what pretext is unknown, hold its use to be unlawful, and do not cultivate it for their own use.

The English appear to have been the first European people who used coffee as a beverage. A Turkish merchant of London, of the name of Edwards, brought the first bag of coffee to London, and his Greek servant made the first dish of coffee in England. This was in 1652, and, of course, under the government of Cromwell. In 1658, some merchants of Marseilles introduced coffee into France, and in the same year the traveller Thévenot regaled his guests with it in Paris on his return from the east. But it was really brought into fashion in France next year through the Turkish ambassador, who treated his fashionable guests with it at his hotel. It soon became fashionable, but from its extravagant price, its use must have been confined to a few of the upper classes. Pope, in the *Rape of the Lock*, published in 1712, represents politicians as sipping it with "half-shut eyes," having probably some noted personage of the time in view. For near seventy years from its first introduction, the consumption of coffee was confined to the produce of Arabia; and the history of its introduction into the colonies of European nations is a very remarkable incident. The old Dutch East India Company carried on some trade from Java to the Arabian ports on the Red Sea; and the Dutch Governor-General of the time, Van Hoovne, having a taste for horticulture, caused some ripe coffee-seeds to be brought to him to Java. They were sown at Batavia, and grew. A single plant was sent home, was planted in the

Botanic Garden of Amsterdam, grew, produced fruit, and from the fruit plants were multiplied. The first plant was sent from Batavia to Holland in 1690, and from its offspring plants were sent, in 1718, to Surinam, and forthwith the Dutch planters of that colony engaged in the cultivation of coffee. From Surinam the cultivation was extended to the English and French West India colonies, and in course of time to the Portuguese. From the West Indies, plants were carried to the East Indies, to Java, to Sumatra, to Celebes, to the Philippines, and in our own time the culture has been successfully extended to Ceylon and Southern India. The single plant, therefore, sent to Holland from Java has been the parent of all the coffee now produced, the small quantity produced in Arabia excepted.

Coffee is essentially a tropical plant, and grows readily from the tropics to the equator, thriving best, like the vine, not in the level plains, but on hillsides, and near the equator attaining most perfection at an elevation of from 2,000 to 3,000 feet above the sea-level.

The stubborn habits of eastern Asia have prevented the Hindoos, the Chinese, and others, from imitating the nations of Europe in the use of coffee. As a beverage it is wholly unknown to them, and even those nations in whose country it is extensively cultivated, and to whom it is accessible at the meanest price, decline to use it.

Among cultivated plants of general use, the history of coffee is peculiarly satisfactory, since we can trace it throughout. We know the country in which it is found in its wild state; we know the people who first cultivated it and used it as a beverage; we know the time and manner in which its consumption was introduced among the civilised nations of Europe; and we know the time and manner in which its cultivation was introduced into nearly every tropical region of the Old and New World. These are details which we do not possess respecting any other plant of equal economic importance.

Tea.—This plant, an exotic in Europe, has acquired its vast importance as food and in commerce and finance in the comparatively short period of a century and a half. It is at present considered by botanists to be a single species of a genus which, from its native Chinese name, they have called *thea*. Under cultivation, it sports into many varieties, arising from soil, climate, and modes of culture,—a character in which it bears a close resemblance to the vine. The genus bears so close a resemblance to the *Camellia* that some botanists have considered them one and the same. The tea plant is found wild in those parts of China in which it is most extensively

cultivated ; in Japan, in Tonquin, and in Cochin-China ; in the country of the Burmahs, and in Assam and Cachar. Its native climate seems to extend from the sixteenth to the thirty-first degree of latitude ; but the climate most congenial to it, if we are to judge by success in culture, is confined to between the twenty-sixth and the thirty-first degrees of latitude, of which the example is the favoured tea districts of China.

The name for tea is derived, in all the languages of Europe and Asia, from its name in the most current of the oral languages of China, that of the ancient metropolitan province of Kyangnan. This is *cha* or *tsa*, which—in the dialect of Fokien, the province with which Europeans had their earliest intercourse with China—is corrupted into *ta* and *te*. The Persians, and from them the Hindoos, have adopted the more correct name *cha*, or, with a final aspirate, *chah*. Among European nations, the Portuguese alone—the first European people who held direct intercourse with the Chinese—have adopted the uncorrupted word, while all the rest have adopted the corrupt one, with such orthographic varieties as the Spanish and Italian *té*, the French *thé*, the Dutch *thee*, and the English *tea*. I imagine that our English name was taken from the Dutch, for it was from Holland that we received our earliest supplies. But even the Dutch themselves received their first supplies, not direct from China, but through Java, then frequented by the junks of China. In time, we ourselves did the same, and the gift of a few pounds of tea, presented to Charles II by the East India Company, was derived from their factory at Bantam, in Java. The name in Malay and Javanese is taken from the dialect of Fokien, and written and pronounced *teh*, which, I suspect, is the immediate source both of the Dutch and English names. If we were to judge by a well-known couplet of Pope, in which the word is made to rhyme with “obey”, the Malay pronunciation was the correct one in the time of Queen Anne, and if so, the Irish ought to be the correct one now. We cannot be quite sure of this, however, for Pope was not always correct in his rhymes, and we find him remonstrated with on this head by Swift. But besides this, the lines in which tea-drinking and statesmanship are combined are burlesque, and the poet may have thought that an imperfect rhyme added to the grotesqueness of the combination.

The Chinese appear to have been the only people, of whose country the tea-plant is a native, who had the ingenuity to discover the virtue that lay hidden in its leaves. It is but a mere luxury ; and civilisation, therefore, we may conclude, must have made considerable advances before luxuries came to be in demand, and such advances the Chinese must have

reached when they began to cultivate the tea-plant. At what time this took place, the Chinese themselves have no reliable record, but the earliest date which they ascribe to it is the eighth century of our time. If this be true, the builders of the great wall knew nothing of tea, for its use was unknown until thirteen centuries after its construction. That the discovery, however, took place at so recent a period is not probable; for we find the Arabian traveller Soliman, who visited China but a century later (A.D. 851), giving an unmistakable account of tea and its use. He tells us that the imperial revenue was derived from a poll-tax, a salt-tax, and a tax "on a certain herb which the Chinese drink with hot water, and of which great quantities are sold in all the cities of China, to the value of large sums. They call it *tcha*, and it is a shrub more bushy than the pomegranate, and of a more agreeable smell, but has a kind of bitterness in it." This account of tea and its use in China, written a thousand years ago, would answer for the present day. It was used all over the empire in the manner in which it is now used, and its consumption was so general that it is classed with salt in contributing to the public revenue. Considering the tardy advance of all progress among oriental nations, it is not, it may safely be concluded, likely that so great a change could have taken place within the brief compass of a single century. We may therefore conclude that the culture of the tea-plant in China is of considerable antiquity, although we are unable to affix any actual date to it.

The Japanese assert that the culture of tea was introduced into their country at a time corresponding to the ninth century of our own era, or with the time that Soliman, the Arabian traveller, visited China. The people of Anam, or Tonquinese, and Cochin-Chinese, also received the culture of tea from China; and in corroboration of this fact it may be added, that both the oral name and written symbol are the same in the Anam and Japanese languages as in the Chinese.

The Portuguese were the first European people who held direct intercourse with China, but they did not reach that country until A.D. 1517, or near twenty years after their arrival in India. They had, however, visited Malacca eight years, and conquered it six years, earlier; and as that place was, at the time, frequented by Chinese ships, they must have seen tea. The quantity, however, must have been inconsiderable; for the best of the Portuguese writers, Barbosa, who enumerates no fewer than seventeen articles of the cargoes of the Chinese junks, does not include tea as one of them. The Portuguese, however, must have been the first to make tea known to Europe; but it was not through them, who have never attached

much importance to it as a beverage, that its use was disseminated among the other nations of Europe. This was effected by the Dutch, whose arrival in China was by a century later than that of their rivals. Even their first knowledge of the article was derived, not from a direct intercourse with China, but, as already stated, through the trade of the junks of China, which frequented the emporium of Bantam, in the island of Java.

As early as 1637 tea is said to have been occasionally sold in England at the exorbitant price of from £6 to £10 per pound weight. In 1659 and 1660, Garraway, the coffee-house keeper, sold it at from 15s. to 50s., according to quality. Its consumption seems to have made but very slow progress, for we find Pepys, in his *Diary*, under the date of September, 1661, making the oft-quoted entry, "I sent for a cup of tea, a Chinese drink, of which I never drank before." In the same year, the East India Company made a rare gift to His Majesty Charles II, namely, "two pounds and two ounces of tea." This was obtained at Bantam, and must have been what is now called in the trade "junk tea"; that is, an inferior black tea, imported by the Chinese junks for the use of the Chinese colonists in the countries adjacent to China. Waller ascribes the introduction of tea into England to the queen of Charles II, but as Catherine of Braganza did not arrive in England until 1662, this was evidently only the invention of a poet.

The first order for tea by the East India Company, as an article of trade, amounted to no more than one hundred pounds. This also was, at first, ordered from the factory of Bantam, but was eventually executed in China. It was greatly exceeded; for the actual importation amounted to 4,731 lbs., a quantity which overstocked the market for several years. At the close of the seventeenth century, our entire consumption was no more than 20,000 lbs. In the first quarter of the eighteenth century, the tea seems to have already become fashionable among persons of rank; and Pope, in his *Windsor Forest*, published in 1713, mentions its use in the passage to which I have already referred:—

"Here thou, great Anna, whom three realms obey,
Dost sometimes counsel take, and sometimes tea."

The consumption at this time did not exceed 300,000 pounds' weight.

Our earlier and more familiar acquaintance with the New World, compared to our knowledge of China, at the time a far more important country, is shown by the early introduction among us of some of the productions of the former and the

tardy one of tea. The turkey is named by Shakespeare as if already well known in England, but Waller is the first classic writer who makes mention of tea.

The progress which the consumption of tea has made in our own country during the last two centuries, struggling all the while against monopoly and high taxation, is unequalled in any other commodity. The yearly consumption of a washerwoman of our day far exceeds in quantity and quality the rare gift presented to Charles II the year after his return, or restoration. At the close of the seventeenth century our consumption was 20,000 lbs., and it now considerably exceeds 100,000,000. The produce of the tax on it exceeds the entire revenues of the government of the Restoration, although the tax be but sixpence a pound.

Besides ourselves, the Dutch and our brethren across the Atlantic are among the nations of the European races the greatest consumers of tea; other European nations giving a preference to coffee, although also consuming it to a considerable and increasing extent.

Among oriental nations not in the immediate neighbourhood of China, the western Tartars have been immemorially consumers of tea, and so have been the Persians. Olearius, an envoy of the Duke of Holstein, and a traveller of the seventeenth century, states that Chinese tea, received through the Usbecks, was consumed by the Persians when he visited their country in 1633. He describes them as boiling instead of infusing it, which is known to be the practice of the Tartars down to the present day. The tea consumed by the Persians in the seventeenth century was, no doubt, the coarse article called brick-tea, but at present the use of good tea is common with the wealthier classes. In more modern times they received their supply from Russia, the article being the well-known caravan tea, of excellent quality but of exorbitant price. At present the southern provinces of Persia are supplied with tea through British India and the northern direct from England.

The largest consumption of tea is, of course, in China itself, for it is used by all classes, and, like tobacco and maize, is grown in nearly every province of the empire. Its consumption is almost equally general in Japan and Anam.

The culture of tea beyond its native country is far from having attained the same wide geographical dissemination as coffee, which, in a suitable soil and locality, flourishes in every parallel within the tropics,—that is, over some forty-seven degrees of latitude. It is not so with tea; for, although this plant grows freely even at the equator, it will not yield good tea, or even what is tolerably good, except from about the twenty-sixth to

the thirty-first degree of latitude. The tea of Tonquin and Cochin China, grown between the sixteenth and eighteenth degrees of latitude, instead of being infused, has to be boiled in order to obtain from it such small virtue as it possesses. Even then it is but a poor and weak beverage, as I had myself an opportunity of observing when in the country. Even the southern provinces of China itself produce but an indifferent tea, very little of it fit for exportation.

The cultivation of coffee, originally confined to a small part of Arabia, came very early to be widely spread. Not so that of tea, of which the culture beyond China has only been tried in our own time. The first attempt was made in Brazil, in about the twenty-third degree of south latitude, but it was not successful. The Dutch, with far more skill but no better success, have attempted the growth of tea in the mountainous parts of Java, and produced a very unmarketable article. In the sixth and seventh degree of south latitude a suitable elevation, easily obtained, would produce the necessary degree of cold, and had the tea plant been an annual, such a locality would have been suitable; but it is a perennial, requiring rest; and as in Java there is no alternation of summer and winter, we may safely foretell that the culture of tea cannot be successful in that island. The culture is at present carried on with far better prospect of success in the mountains and valleys of the Himalayas and Assam, but especially in the latter, in which the plant has been found in its wild state, and is now so successfully cultivated that at present there is a considerable export of it. The tea plant of Assam has some peculiarities which induced the late illustrious botanist Robert Brown, as he told myself, to consider it not a variety, but a distinct species from that of China. It is probably the same with the plant which the Burmese call lap-pet, and which, preserved in oil, they eat in the manner that we do olives. To the Burmese and Assamese the cultivation of tea was unknown; an example, among many others, of their inferiority to the Chinese, if, indeed, additional evidence were necessary.

But it is not climate, soil, and suitable locality only that are indispensable to the successful economic cultivation of tea: cheap labour is not less necessary to success in an article which demands not only skilful culture, but an extraordinary amount of skilful manipulation both in gathering and curing the crop. In this matter China will long have the advantage of every other part of the world, and Japan is far more likely to compete with it than any part of our Indian possessions.

The only other article of importance belonging to the class of which I am now attempting to give some account, is the

Cocoa or *Cocoa*. This is the produce of several species of a genus of plants to which botanists have given the name of *Theobroma*, signifying "food of the gods." Notwithstanding its fine name, the genus belongs to the natural Order of *Sterculiaceæ*, a name derived from the ill odour of its leaves and flowers. The seeds of the pods are the usual esculent parts of the plant, and which constitute the cocoa of commerce, and these again, ground with sugar and spices, make the well-known article chocolate. These two words come from the language of the Aztecs or Mexicans, written in Spanish orthography *cacahuatl* and *chocolatl*. These words, with various modifications of pronunciation, have been adopted in all the languages of Europe. The Mexicans were found cultivating the *cocoa* when first seen by the Spaniards, and hence it is that these names come from their language.

The *cocoa* is a shrub, growing to the height of ten or twelve feet, and is exclusively a native of the hot and damp parts of tropical America. Mr. Bates, in his interesting and instructive work, describes it as found growing wild in the forests of the Amazon, the fruit in this case differing from that of the cultivated plant in no respect, except in being less abundant. The culture of the *cocoa* is nearly confined to the American continent and its islands, the one partial exception being the Philippines, where it has not been attended with much success.

The *cocoa* beans, or pods, grow from the stem of the plant, are of a red colour, and in shape resemble gerkins, or young cucumbers. The esculent seeds consist of albumen, of a small quantity of the same principle which gives their peculiar virtue to tea and coffee, namely, *theine*, and of an abundant oil, from which is derived its peculiar aroma.

The chief consumers of *cocoa* are the Spaniards and Portuguese, the European nations of whose colonies the plant is a native. All the other European nations, however, consume it in smaller quantity. The taste for it has never extended to any Asiatic peoples, all of them, whether tea or coffee consumers, rejecting it. The Mexicans and Peruvians were found cultivating and using *cocoa*, not only as food but as money, when first seen by the Spaniards, so that its first use is fully as untraceable as that of tea.

Maté.—The only other commodity which can be classed with the three plants which I have now described, is the *Maté*, or Paraguay tea. This consists of the leaves of a species of *ilex*, or holly, which takes its name from its native country, Paraguay. On analysis it yields, like tea, coffee, and *cocoa*, a small quantity of *theine*, to which it owes its virtue. It is a coarse, flavourless article, which has found no acceptance in Europe,

but is largely used in South America, where the yearly consumption has been estimated at forty millions of pounds.

Tea, coffee, and *cocoa*, but more especially the two first, have been main agents in the great revolution which, within the last two centuries, has taken place in the manners and customs of the nations of Europe. They have unquestionably added greatly to our comforts, and probably, also, conduced to refinement and sobriety. The two most important of them we owe to Africa and Asia, and by far the least so to America.

XXII.—*Note on the late Mr. Crawford's Paper on the Migration of Coffee, Tea, etc.* By Dr. CAMPBELL, M.D., late Superintendent of Darjeeling.

[Read June 9th, 1868.]

ABOUT ten days before the death of our late lamented President, he sent me a printed copy of his paper which has now been read. He asked me to make whatever remarks occurred to me on it, and hoped that at the "reading" we should have some discussion on the different subjects treated by him.

My acquaintance with the subject is from two sources. At the International Exhibition of 1862 I exhibited the teas of all the tea-producing provinces of India, including the government teas from Kunnasu; and I was a member of the jury on articles of food at the same exhibition, when all the articles treated of from all parts of the world came before us. 2ndly, I had a great deal to do with the introduction of tea into the district of Darjeeling, of which I had civil charge, and there I became well acquainted with the cultivation and manufacture of tea and coffee.

Mr. Crawford says that coffee migrated from the west—Holland—to the east. This was only the case to a certain extent, for I find in a report by Colonel Onslow, of Madras, that it was introduced into India about two hundred years ago by a Mahomedan pilgrim who brought seven *berries* only from Mocha to Mysore and put them in his garden; and that from this source it spread very slowly, although at present the produce is considerable. It is principally grown in the Madras and Bombay presidencies. In 1861 India exported to all parts 20,000,000 of lbs., of which one half came to France. It is known in commerce as "Cannons Mysore", and is of excellent quality.

The cocoa is not grown in Continental India. One sample only from Singapor was exhibited in 1862.

The discovery of tea in India and the progress of its cultivation and manufacture is very remarkable. About twenty years ago the plant was discovered in Assam, where it is believed to be indigenous, although it is possible it may have reached that province from China overland. It was also some years later discovered in the neighbouring province of Cachar, where it had attained the size of small trees. At first it was believed

that this great discovery was a mistake, and that the plant was a species of *Camellia* which, in all its botanical characters, very much resembles the tea plant. A commission of inquiry, headed by the late Dr. Wallich, was deputed to examine and report on the plants discovered, when it was decided that they were the veritable tea plant. The only important difference between the two plants being that in the one the seed pod when ripe opens along the back of the seed—which are three in each pod—while in the other it opens along the interstices of the seeds.*

There were twenty-eight exhibitors of Indian teas from seven provinces in 1862. One hundred and fifty-three different kinds of tea were examined. Four "Medals" and seven "Honourable mentions" were awarded, and the teas were of most excellent quality. The manufacture is rapidly increasing. 7,000,000lbs. are expected this year in England. A good deal is used in India, and the export of it to Thibet and Central Asia has commenced from the north-western portion of the British Himalaya, *viâ* Lâdâk: where we now have a British agent to look after our commercial interests, which have been so long obstructed and interfered with by our tributary ally, the Raja of Cashmere.

The teas of Java and Brazil were found to be very inferior to the Indian ones, and still worse were sampled from Natal and Victoria.

On the "Mahte" or Paraguay teas, I have little to remark. It is a wretched substitute for tea. It is brought to Europe packed in skins with the hair outside, and keeps for a long time I believe.

Besides the samples from Brazil, there were nine other exhibits from the French Colonies of Reunion, Guadaloupe, and Miguelon.

Mr. Crawford has remarked on the extraordinary discovery of the edible coffee by simply roasting the raw seed, which has no fragrance, and in its fresher state of a pulpy berry has no attractions for the palate. The discovery of tea-making is still more wonderful; and the man who first eliminated the most refreshing and delicious of drinks from a harsh and bitter leaf by a complicated and very delicate process, may, in whatever age or country he lived, be surely ranked among the greatest benefactors of the human race.

Much is said by medical men in England and others about the injurious effects of tea. I am not competent to judge of

* *Camellia* leaves will not make tea; but this test could not then be applied, as no one in India could make tea at that time.

its effects on the people of the British Islands who consume, however, 120,000,000lbs. per annum, or about 3lbs. per head of it, and seem none the worse; but I have lived a very long time on the confines of Thibet where tea is used to an enormous extent, and where the people are extraordinarily robust and healthy. It is the same in Mongolia, Mantchooria, and all through Central Asia to the regions of the Caspian; yet no one ever considers that it is in the very least degree injurious, while all delight in it, and among all it is considered very nutritious.—(See Vambéry's *Travels*, Huc and Gabet, Hooker, etc., on this head).*

* My friend, B. H. Hodgson, Esq., late of Nipal, having read the above note, informs me that, before the discovery of tea in Assam, the plant was growing in the residency garden at Kathmandoo, where it had been received overland from China.

XXIII.—*On the Notation of Time in China.** By T. F. WADE,
Esq.

[*Read June 9th, 1868.*]

THE grand division of Chinese time, chronologically speaking, is the cycle of sixty years. The year is luni-solar. As a lunar year it counts twelve moons, with intercalation of a thirteenth, whenever lunar time falls a whole revolution of the moon behind solar time. But it is farther divided into twenty-four fortnightly terms, which commence and terminate without reference to lunar time, their beginning and ending being marked by the entrance of the sun into the first or the fifteenth degree of a sign of the zodiac.

The first, third, fourth, eighth, and twelfth moons of the lunar year number but twenty-nine days; the remainder thirty days. Thus, the intercalary year will contain three hundred and eighty-four or three hundred and eighty-five days; the ordinary year three hundred and fifty-five days. The fortnightly terms, marching as they do by the side of the sun's progress, must of course shift their places annually in the calendar of the lunar year; but in that of our solar year they are repeated with comparative uniformity. When an intercalary moon occurs, they continue to be reckoned as usual. Whence it happens sometimes that the first of them is brought into the twelfth moon, making thus a twenty-fifth term in the lunar year; but the first term usually falls somewhere in the first moon.

The year has four seasons, each, as with us, possessing a distinctive name; but, otherwise than with us, each season is positively bounded by the first and last days of the four quarters of the year. The change of seasons, as we understand the expression, is much more definitely indicated by the twenty-four terms, each of which has a name that is descriptive. They measure some but fourteen days, some sixteen days, in length; but the average is fifteen days. The following table

* This paper was drawn up merely for the private information of Mr. J. Crawford, in answer to his question, Have the Chinese a week? The works from which most of the matter is drawn are Morrison's *View of China for Philological Purposes*, Macao, 1817; Bridgman's *Canton Chrestomathy*, Macao, 1841; Williams's *Middle Kingdom*, New York and London, 1848; and *A Collection of Archaeological Notices*, abridged, by a Native Author, from a larger work.

will show their titles and the place of each according to our almanac:—

SPRING TERMS.

Feb. 6	○ 15° in Aquarius.	<i>Li Ch'un</i> , commencement of spring.
„ 20	... 1° in Pisces.	<i>Yü Shui</i> , rain.
Mar. 5	... 15° „	<i>Ching Chih</i> , awakening of insect life.
„ 20	... 1° in Aries.	<i>Ch'un Fên</i> , the division of spring (vernal equinox).
April 5	... 15° „	<i>Ching Ming</i> , clear brightness.
„ 20	... 1° in Taurus.	<i>Ku Yü</i> , grain rains.

SUMMER TERMS.

May 5	... 15° in Taurus.	<i>Li Hsia</i> , commencement of summer.
„ 21	... 1° in Gemini.	<i>Hsiao Man</i> , (the ear) slightly filled.
June 6	... 15° „	<i>Mang Chung</i> , the thickening crop.
„ 21	... 1° in Cancer.	<i>Hsia Chih</i> , summer's arrival or culmination (solar solstice).
July 7	... 15° „	<i>Hsiao Shu</i> , small heat.
„ 23	... 1° in Leo.	<i>Ta Shu</i> , great heat.

AUTUMN TERMS.

Aug. 7	... 15° in Leo.	<i>Li C'iu</i> , commencement of autumn.
„ 23	... 1° in Virgo.	<i>Ch'u Shu</i> , heat controlled.
Sept. 8	... 15° „	<i>Pai Lu</i> , white dew.
„ 23	... 1° in Libra.	<i>Ch'iu Fên</i> , autumnal equinox.
Oct. 8	... 15° „	<i>Han Lu</i> , cold dew.
„ 23	... 1° in Scorpio.	<i>Shuang Chiang</i> , descent of frost.

WINTER TERMS.

Nov. 7	... 15° in Scorpio.	<i>Li Tung</i> , commencement of winter.
„ 22	... 1° in Sagittarius.	<i>Hsiao Hsueh</i> , little snow.
Dec. 7	... 15° „	<i>Ta Hsueh</i> , great snow.
„ 22	... 1° in Capricorn.	<i>Tung Chih</i> , winter solstice.
Jan. 6	... 15° „	<i>Hsiao 'Han</i> , slight cold.
„ 21	... 1° in Aquarius.	<i>Tu 'Han</i> , great cold.

There is no sub-division of the Chinese moon corresponding to our week; but it does sub-divide into a first, middle, and last decade, the last being the only one affected by the varying length of the moon before noticed.

The day and night, as a whole, are divided into twelve two-hour periods, each with a distinctive name, of which more presently; and each of the two-hour periods contains eight sections, literally notches, minor periods of fifteen minutes each. The night, from about 7 P.M. to 5 A.M., is divided into five changes, each of two hours. But before going farther, we must return to the cyclic method.

The cycle of sixty years is of great antiquity. Tradition tells that it was introduced by the minister of a sovereign of prehistoric times, some twenty-six centuries before the Christian era. This was in the sixty-first year of Huang-Ti, by whose command it was invented, a date which, as our year

1863 was the last of the seventy-fifth cycle, should correspond to the year B.C. 2637.

Each year is distinguished by a combination of two Chinese characters; the first of which is one of a series of ten that recurs six times during the cycle; and the second, one of a separate series of twelve, which is repeated five times during the same period. The series of ten is distinguished by the Chinese as the series of the stems, that of the twelve as the series of the branches. The former are supposed to represent different departments of inanimate, the latter of animated, nature; the latter are farther used to designate the twelve two-hour periods into which, as above stated, the day and night are distributed; also, as titles of the signs of the zodiac; also, to divide and subdivide the bearings of the compass, and for other similar purposes. In the records of a reign, the days of the month are marked by the cyclic combinations of stem and branch. Historical writers, when referring to events, establish their date by naming the dynasty, the style of the reign, and either the cyclic year, or, which is a more common usage, the place of the year in the reign, or a particular part of the reign, its number; that is, from the first year in which the style mentioned was adopted. This explicitness is rendered necessary by the fact that in some cases there have been many styles in one reign. When an emperor ascends the throne, there are submitted to him, for selection, certain combinations of characters as the style by which his reign is to be known. This is not the emperor's name, which, after his accession, should be no more spoken or written, but the *kuo 'hao*, state or government designation. Thus, during the reign (1820-1850) of the emperor with whom we first went to war, the *kuo 'hao* was *Tao Kuang*. These two words elliptically represent the following four, *ch'i tao ta kuang*, "illustriousness of well-doing", which occur in a passage in the ancient and imperfectly understood *Yi Ching*, or Book of Symbolical Changes. Their meaning can only be explained by a perusal of the whole passage, which runs thus: "To benefit those below at the expense of those above is *ch'i tao ta kuang*, the greatest glory of principles, or the most glorious of principles", *sc.* of principles that should direct the government of a state. This style, or motto, was chosen, it is said, as a protest against the sale of rank to which the government of the previous reign had largely resorted.

On the death of the emperor in question, in 1850, his son and successor took the style *Hsien Feng*, "Universal Plenteousness"; the reign of his father having been remarkable for dearth. He again was succeeded, in 1861, by the present

ruler, then a child of some six years of age. The camarilla, who had absorbed all power in the reign of the father, forged a decree constituting them a council of regency, and chose for the new reign the style *Ch'i Hsiang*, "good fortune"; but on their overthrow, two months later, this was exchanged for *T'ung Chih*, "union for order",—an appeal to the patriotism of all ranks to unite for the suppression of the organised brigandage then, as it is still, disturbing the empire. Historically, therefore, we are in the seventh year of the reign T'ung Chih of the 'Ta Ch'ing dynasty.

In earlier times, we find emperors frequently substituting one *kuo 'hao* for another; some as often as thirteen times in a reign, to the great embarrassment of the student of history. It is observable that the practice, which was of course suggested by superstition, its object being to change the emperor's luck, has not been recurred to since the expulsion of the Mongolian dynasty in 1366.

After death, the emperor is *personally* spoken of by his *miao 'hao*, the title, that is, by which he has been canonised; but the events in any reign, as before observed, will be described as occurring either in such a year of such a *kuo 'hao*, the year in question being distinguished by a number, or by a cyclical combination prefixed to it. The treaty of Nanking, for instance, would be referred to as concluded either in the twenty-second year of 'Tao Kuang, or in the year *ting wei* of 'Tao Kuang, our year 1842.

"*The Book of Records*,"* says Dr. Williams, "contains some remarkable notices of the orders given by Yau to his astronomers Hi and Ho to ascertain the solstices and the equinoxes, and employ intercalary months, and fix the four seasons, in order that the husbandman might know when to commit his seed to the ground. If the time of the Deluge be reckoned, according to Hales, at B.C. 3155, there will be an interval of about eight centuries to the days of Yau, B.C. 2357, which would be ample time for the observation that the primitive sacred year in Noah's time was wrong, and that the lunar year of about 354 days was also wrong, and required additional correction, which this ancient monarch is said to have effected by an intercalation of seven lunar months in nineteen years, like the metonic cycle of the Greeks. It is also remarkable that the time given as the date of the commencement of the astronomical observations, sent to Aristotle from Babylon by command of Alexander, should be B.C. 2233, or only a few years before the death of Yau: at that time, the five additional days

* Shu Ching.

to complete the solar year were intercalated by the Chaldeans, and celebrated with great mirth as days of festivity. * * * The intercalation made by Yao has continued with little variation to this day, the Romish missionaries having rectified the calendar, as much as it needed, on their arrival in the country, and continued its preparation since that time" (*The Middle Kingdom*, vol. ii, 147-8).

The Chinese work, to which reference is made at the head of this notice, mentions that from the days of Yao, say twenty-three centuries before Christ, to the end of the Mongolian dynasty, in 1366, there were no less than sixty-three modifications in the system of computing time; that subsequently to the reign Ch'êng Húa of the Ming dynasty, which reign ended in 1486, the almanac fell into great confusion, from which it was only extricated by the aid of Arabian astronomers. Later still, it was hopelessly confused again; and its rectification in the early years of the reign K'ang Hsi, it will be remembered, was one of the chief causes of the ascendancy which the Jesuits obtained.

The Chinese philologist will tell us, that the year is classically either *nien*, *sui*, *ssü*, or *tsai*, each term having been first employed by a different one of the dynasties preceding our era.

The word *nien*, used by T'ang Yü, B.C. 2200, is the period within which the five kinds of grain, the different products of the field, ripen; say the year from harvest to harvest. The word *sui*, literally "to overstep", was the year as implying a complete revolution of the heavenly bodies. This was used under the Hsia, B.C. eighteen odd centuries.

The word *ssü*, which, etymologically considered, is connected with sacrifices, *inter alia*, sacrifices to the dead, thence completion or accomplishment, is the year of four seasons completed. This was used under the Shang, B.C. twelve odd centuries.

Tsai, properly "a carriage", thence "to fill", thence to fulfil, is the annual revival of nature.

The winter is *yüeh*, "the moon"; the day, *jih*, "the sun"; although popularly *t'ien*, "a sky" or "heaven" is common for the latter. The fortnightly term is *chich ling*; the first word signifying "a joint of bamboo", thence a section; the second, "a command", thence a presiding influence.

XXIV.—*On the Natives of Formosa.* By DR. SCHELIG.

[Read June 23rd, 1868.]

BEFORE exhibiting, as I propose, some skulls and photographs of natives of Formosa, and before giving you my views as to the place, in the series of the races of mankind, which I would assign to those natives, I desire for a moment to call your attention to the history of foreign intercourse with that large island. Formosa, though within a day's sail and in sight of China, was not visited by the Chinese before the latter half of the sixteenth century, even if we take the ever-flowery accounts of Chinese history for granted. At all events, when the Dutch occupied the island, somewhere about 1620, they found only few Chinese living together with the original inhabitants in the plains; and it was not till after the Dutch had been dislodged from their two or three strongholds by the Chinese pirate chief Coxinga, that the crafty rulers of the Manchoo dynasty managed to lay their hands upon the island, which they have since claimed and kept as a sort of colony of the great empire. Thus has Formosa, to speak correctly, undergone, in the course of two centuries, several changes of rule. It has seen Chinese settlers flock in,—it has been a *bonâ fide* Dutch colony,—it has been the seat of many inroads by an independent Chinese king,—and it has ultimately been raised to a province of the Chinese empire. The chequered history and present state of the isle is heightened by the traces and recollections of temporary settlements of the Japanese and Spaniards, as well as by those of independent Chinese chiefs, still reigning supreme in some parts; whilst the interior, the forest heights, above 3,000 feet elevation, still remain in the hands of the aborigines.

Of these aborigines, the Dutch, during their occupation of sixty years, knew and saw a great deal. They subjected great numbers to their rule, made them work for them, carried on a sort of trade with them, and converted them to the Christian faith. To do all this, they had to acquire a fair knowledge of the native language; and this they accomplished to an extent which, considering time and adverse circumstances, does their enterprising spirit great credit; for they not only spoke several dialects, but made themselves so familiar with two of these native languages, as to compile a valuable dictionary of them,

and to translate portions of the Bible into them. The Dutch writings on the third dialect have been lost. The documents relating to the first two have since been discovered in Batavia, and further on I shall revert to them. But important as they may prove to those desirous of making out the idioms of Formosa, the Dutch have failed to leave any other than general accounts of the tribes. For the distinctions between these races, we must look to the poor remains that are still left in the island, and to circumstantial evidence, rather than rely on tradition.

It appears, when we compare the few existing Dutch notes on the natives generally with those of a Scotch contemporary, David Wright, and the marginal notes of the *Atlas Chincensis*, by Ogilby, that in the seventeenth century there existed in the plains and in some parts of the hills of Formosa a native race of a somewhat tall stature and tawny olive complexion, strong in limb, and generally resembling the Malayan type more than the Chinese. Their religion, or rather their want of it; their faith in spirits good and evil; their mode of building houses, and of living in small communities on an oligarchic or democratic principle, rather than under the rule of a king; their simple husbandry and love of the chase; their marriage and funeral rites; but more than all, their mode of warfare, and the peculiar use of their enemies' skulls as much coveted trophies, place them, as far as their moral, intellectual, and social condition go, very much on a level with their nearest neighbours, the inhabitants of the Philippine islands and some of the natives of Borneo. This you will at once understand when reading of the habits and customs of the Dyaks as related by missionaries and travellers, and those of the Tagals and inhabitants of the northern provinces of the island of Luzon before the conquest. In the latter island, there are living, in the wild recesses of the provinces of Cagayan and Ilocos, to this day, unconquered tribes of Philippine origin, whose manners much resemble those of their forefathers and those of the Dyaks. It is not necessary, however, to attach much importance to the embellished and romantic accounts of Mons. de la Gironière, which have been made up for him by a French novelist in the feuilletonist style of the day. As to the language of the Formosan people, it consisted of several dialects, two of which have, as above stated, been handed down to us by the Dutch missionaries. These dialects, shortly after they had been exhumed from the Dutch archives in Batavia, were shown, by a German linguist, von der Gabelentz, to be branches of what may be regarded to have been established by W. v. Humboldt as the great Malayan type of language. Von der Gabelentz published an analytical paper on the

subject in German. And of this origin they appear to have been not unworthy, but are rather a noble and organically shaped offspring, resembling in this some of the dialects now spoken in Luzon.

It is very much to be regretted that since the termination of the Dutch occupation the island has been left entirely to the mercy of the Chinese, who have played the same cruel part here as in other islands of the Malayan Archipelago. They have carried on the incessant and merciless fight of a semi-civilised against a barbarous race, which invariably results in the extermination of the weaker element. Already the effect has been visibly shown in Formosa. The native population has dwindled down before the vast influx of Chinese squatters, with whose industry both in husbandry and in trade no other race of the East has as yet been found able to compete. The remaining inhabitants are fast disappearing, those of the plains from intermarriage with the Chinese, whilst those of the hills fall an easy prey to the combined effects of a damp climate and famine, the roguish practices of the Chinese, the abuse of spirituous drinks, and to frequent epidemics of small pox. Those who still follow the old habits of their forefathers must clearly fall into a more rapid decay under the above-mentioned evil circumstances, forasmuch as there exists among the ancestral prescripts that dire law which stigmatises women bearing children before a given age, which is mostly from thirty-one to thirty-seven years. What with unprincipled settlers constantly at work against them, and with their inborn love of splitting up into small tribes, their minds being easily excited to warfare against their own kindred, the destruction going on is not to be wondered at. Indeed, occasional visitors are led to believe that nothing has been left to prove the connection between the present aborigines of Formosa and those known to the Dutch. It is true, indeed, that a great change has come over the natives, that they are fast becoming lost among the crowds of Chinese colonists. It is true, also, that those beautiful dialects cultivated by the Dutch savans, the Favorlang, Sidcäa, and Sakam, are hardly to be traced, and, moreover, that the connecting link of history is wanting to show what has become of them since 1680 (for Mr. Psalmanassar, the only author in this interim, was an impostor, as you are all aware). Notwithstanding, I am convinced of the validity of my views, namely, *that the Malay origin of most of the inhabitants of Formosa is incontestable.*

At the present time we are able to distinguish among the various tribes of aborigines in Formosa, three races. The one, called Shekwan by the Chinese, is a peaceful people, living mostly near the sea-shore on the north end of the eastern coast and on some of the smaller islands near Kelung; and they are

even to be traced as far as Tamsui, where they are, however, nearly extinguished, and nothing short of a careful survey of the huts on the sandy sea-shore to the south of the river will reveal the fact that this race has existed here before the Chinese. To what extent they may be found to have weathered the storm of Chinese immigration on the west coast, I am unable to say ; but I shall prove to you by two skulls from the neighbourhood of Pakow, that there this race turns up again. With these people I have had much intercourse in different parts of the north of the island ; though I much regret, for more than one reason, that my stay was limited, and I had no opportunity of visiting the south. This race, the Shekwan, are of a tame yet not a shy disposition ; strong in limb, and broad in face ; of a yellow complexion ; dark, heavy hair ; dark eyes ; well-shaped, oval eyelids ; broad nostrils, and prominent cheek-bones. Every one of these signs you will be able to recognise in the photographs, which I exhibit, and which were taken by Mr. Ohlmer of Amoy, who accompanied me. The subjects were picked out by myself, and you can rely on their being as fair and accurate representatives of the race as could be got. Of their manners and customs but little can be said ; they live in small, poorly-built houses, with thatched roofs, mostly near the sea-shore, where they have evidently been driven by the crafty Chinese ; they subsist on agriculture in its simplest form, and on fishing. They have no religion of any importance, but believe in a "father of all things", who lives below, and to whom everybody will return, as he issued from him. To this "father" you will see them piously sacrifice a few grains of rice, or some drops from any cup offered them, before they partake of it. They have no idols, nor do they believe in a life hereafter ; though they give up their dead, enclosed in four boards, to the "father of all things". Their peaceful nature is further evinced by their domestic and social life, which knows of no ruler, but an elder chosen by each small community according to influence or age. This dignity seems to be more of an ornamental than of an executive or legislative character, as there are but few offences to be visited at the hands of justice. A thief will be punished by having his thumbs tied together and hauled up to a tree or post as high above his head as possible. Murder seems entirely unknown among them. Of such self-governing communities there appear to be a great number. I was told that, between Sawo-bay and Pamsheang, a distance of twenty miles, there lived no less than thirty-six, all on friendly terms with one another, and with the people of Sawo-bay, to whom they, however, cheerfully gave the palm for good behaviour and a beautiful pronunciation of the dialect.

It need not be an object of surprise that this people, in the state of subserviency to, and dependence on, the Chinese, in which they live, are not eager to preserve their own language, especially as they have no written characters that could serve as a repository. For this reason I thought it high time for the rudiments to be gathered together by foreigners, and be placed on record, and I therefore devoted much of my time to studying this as well as the dialects of the race of natives inhabiting the hills of the north, and have carefully collected a couple of hundred words of each. These may be regarded as correct specimens, as all doubtful words, and those that only belonged to small circumscribed districts, have been either left out or marked, and the transcription made according to the phonetic system of Lepsius. These vocabularies have been embodied in a paper devoted to the special subject of Formosan languages, which will appear in the *Berlin Journal of the Sciences of Language and Ethno-Psychology*. I need not, therefore, trouble you with a detailed account of these idioms, but merely wish to lay before you the conclusions to which I have come with regard to the origin of these dialects. (For I may as well, for the sake of unity, speak of the language of the northern mountaineer race now; although I shall treat on their physical appearance later.) Firstly, it is obvious, even from the limited number of words which a traveller is in a position to collect, that the two dialects are essentially of the Malayan type, as a great number of words indicate an intimate alliance to most of the other known Malayan dialects of the Archipelago, and because the grammatical characteristics of Malay, viz.—the use of prefixes and suffixes for grammatical purposes, can be clearly proved to exist in both dialects, but much more in the dialect spoken in the plains, although even here it is recognisable in its rudiments only. As to the matter of comparing different dialects of the same great type, such as Malay, I cannot sufficiently express my misgivings of the method hitherto often adopted, which, regardless of the utterly fluctuating nature of pronunciation in most of the savage and illiterate tribes of eastern native races, applies to them the canons of Indo-European etymology, and puts down identity as a requisite of homologous origin. It is in this way that we should arrive at a painful dismemberment of that highly organised Malayan language, and thus deprive alike the traveller and the linguist of a valuable means of studying the fundamental coherence of their manifold offspring.

I believe I have shown, in the paper referred to, that the two dialects in question do not evince a distinct alliance to one or the other of the known dialects of the Archipelago, but that

they bear a relation to most of them, and even to the most remote, viz.—the Malagassian, which would not place them in a dependent position on any of the nearest tribes, such as the Caroline islanders, as far as linguistic evidence can be admitted to be conclusive.

Dismissing the subject of languages for the present, I desire to direct your attention to these two characteristic specimens of skulls which, from the physical signs they exhibit, and from comparison of their dimensions with those of some living subjects made by me on the spot, I have no hesitation in pronouncing to belong to the native tribe of the plains of Formosa just described. This tribe, though melting away under the influence of the more potent Chinese race, and known to them under the appropriate name of Shekwans; *i. e.*, “cooked foreigners” (*versus* “Chinwans”; *i. e.*, “raw foreigners”, those of the hills), must certainly be regarded as the most important of Formosan native elements, as its remains are scattered all over the island, and most—not all—of the inhabitants of the south will be found identical with those of the northern plains. These two interesting skulls you will find of a most peculiar shape. They have both been sawn open vertically, in the median line, and a full opportunity of inspection is thus afforded to you. In proceeding to give you a description of these crania, I propose generally to consider their shape, size, and proportions, to compare them, also generally, with the skulls of Chinese, Malays, and Polynesians, whilst I desire, in order to avoid too much dry detail and the confusion necessarily attending upon reading a series of metrical figures, to give you every opportunity of correcting or corroborating my statements by looking into the table of measurements affixed.

The two skulls exhibited here, are of ordinary, but different size, the larger one apparently of advanced age, say fifty-five; whilst for the smaller, from the appearance of its sutures, I would claim an age, approximate to thirty-five. In the latter, the baso-occipital suture has remained ununited. Both I judge to be of male individuals. In both, the bones of the skull, as well as of the face, are strongly developed, and of a somewhat unusual weight and bulk. The temporal bone appears to be but of moderate size, the parietal and occipital of ordinary, the frontal bones rather beyond the mean, with very extensive frontal sinuses, but the zygomatic bones have assumed almost formidable proportions. When regarding their shape, you will be struck with the beautiful oval form, as presented when viewed from above, which changes into a beautiful and regular egg-shape, as you bring the anterior fontanelle into the centre, then the zygomatic arches protrude from the sides like

two big handles. This aspect of the skulls is suggestive of their dolichocephalic form; a fact which you verify by consulting the table; the cephalic index, indeed, being seventy-three only; while the index of height is a little beyond seventy-three, which gives the latter a surplus of four over the former. The forehead is sloping, the occiput almost rectangularly bent by the occipital protuberance being in both cases so very prominently developed.

Taking a lateral view of our skulls, I would ask you to observe the perfection of the arch into which enter the bones of the roof, and which I believe to stand unrivalled even when we compare these to a series of Indo-European skulls. You will here also notice the uncommon size of the maxillary bones and of the minor alæ, as far as both have been preserved. On opening the crania and inspecting the interior, you will find the arched form of the outer skull to be but little at variance with the inner surface of the roof, there being few, if any, marks of the brain convolutions visible. The length and width of the basilar bones may be called ordinary. The line from the hinder point of the basilar axis to the insertion of the nasals into the frontal bone is long, as will mostly be the case in skulls of the hypsisthenocephalic shape, unless there be some evident displacement of the ethmoid and frontal bones. I would, however, warn you against admitting this line, which Professor Welcker has called *nb*, as a test of the length of the basilar axis, for I am inclined to conclude from most of my measurements that it tends to bear an inverted relation to it. The two perpendiculars which Professor Huxley has recommended to be erected on the ethmoid plane and the posterior termination of the region of the tentorium cerebelli, to show the overlapping of the great hemispheres over the base, you will also find put down; but you should always bear in mind that much allowance has to be here given for skulls of different cephalic indices and of different heights.

In comparing these two Formosan skulls with those of the neighbouring races of the Chinese, the Malays and the Polynesians, I shall again, for the detailed measurements, request your inspection of the table; but I cannot refrain from laying down a few principles with regard to measurements generally, and the evidence to be gained from them as to the distinction of races. First of all, we cannot be too scrupulous in defining the extent to which any measurements of living individuals shall be regarded as conclusive. Were it not that I had myself had ample opportunity afforded to me during my visits to Luzon, Formosa, and Singapore, as well as during my stay in China, to convince me of the futility of measuring bodies by

means of tape and callipers, at least with regard to the great majority of dimensions in the human frame, I ought to have been deterred from indulging in any hopes of its practicability by the multifarious measurements and figures exhibited in the anthropological part of the book describing the Austrian "Novara" expedition, which have been most carefully drawn up; but, considering the innumerable sources of error inseparable from the proceeding, to very little purpose. However, I admit the necessity of certain proportions of the bony skeleton being recorded, providing the utmost pains be taken to secure accuracy. A great disadvantage in using living subjects for taking measures of heads consists in our inability of ascertaining whether we are dealing with normal or synostotic skulls. Secondly, with regard to craniology itself, I deny the possibility of drawing from its teachings, in the present state of science at least, any conclusions expressive of the most distinguishing characters of widely different races, but I readily admit their value in testing tribes closely allied.

Reverting to our skulls, then, and the table affixed, you will observe the following points of interest:—

1. As to the question of shape. The two Formosan skulls are totally dissimilar to the Chinese on the one hand, and to the Malay crania on the other. While both the latter are invariably egg-shaped, with more or less developed tubera to make them angular; the skulls here exhibited are of an almost perfect oval, and peculiarly devoid of the flat roof which forms so prominent a feature in nearly all of the Malayan tribes, above all in the inhabitants of Lugon.

2. In their dimensions again, my table will give you sufficient proof of the great discrepancy existing, not merely, as could be expected, between the Formosan skulls and the Chinese, but between the former and all the Malayan placed on record. You will observe the great difference in the indices of width and height, the coincidence of both these facts being always an important sign; and you will agree with me that the width of the zygomatic bones, taken at their lowest point of joining with the maxillary and reduced in the width of the skull, in order to show their correct proportion to the whole cranium, leaves all the other skulls, Malayan as well as Chinese, far behind, thus giving a most peculiar and characteristic appearance to the face which, I have no doubt, you will find represented in the photographs of the people.

3. On the great question at issue, therefore, viz., the origin of this race of Formosan natives, I confess to have seriously vacillated. For, although I was much inclined to accept what would appear to be an *à priori* argument, that they were to be

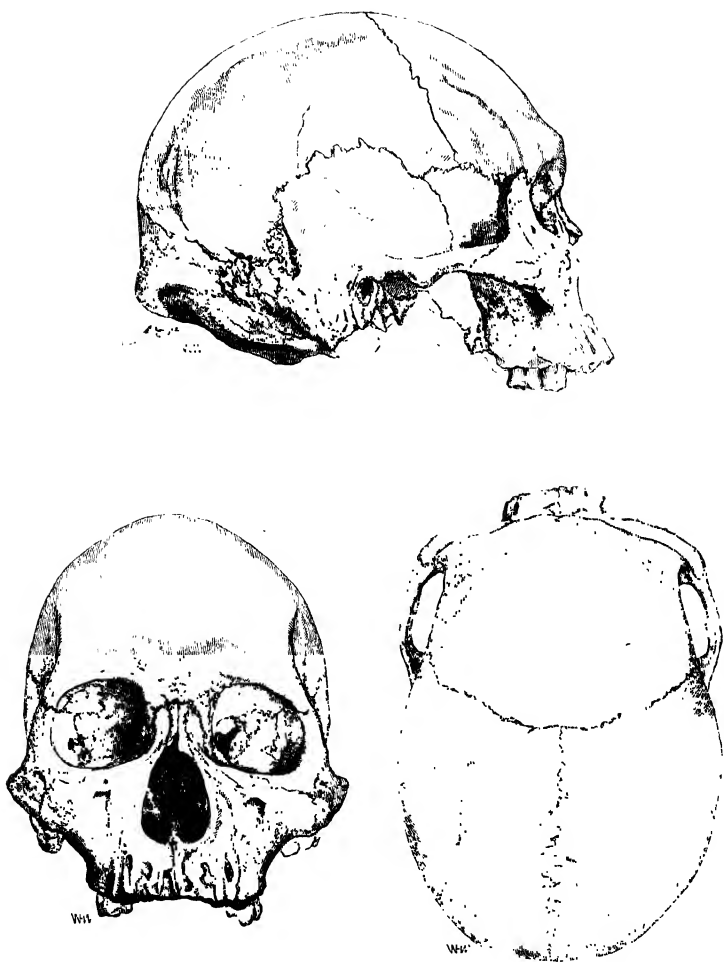
ranged amongst the Polynesian race, when I first came across them, I was so much startled by the evidence of a language essentially Malay, and that I could not, for a long time, make up my mind how finally to settle this question, till I came here, and made very liberal use of the permission given to me of examining the fine collection of skulls preserved in the Museum of the College of Surgeons. For here I was agreeably surprised to discover in the few Polynesian skulls which are there, as well as in those of the New Zealanders, a series of most valuable points for comparison with those of Formosa; and I state as my firm conviction, that these two races, as far as craniology can show us the way, are of the most intimate relation, whether we regard the dimensions or the shape of them. I would ask you to notice the almost identical indices of width and height of the skulls from Formosa, and of those from the Sandwich Islands, while even the Feejee Islanders come within a very close limit of them. In point of shape, on the other hand, there is not to be found amongst the various tribes of the Malayan Archipelago any head resembling the Formosan so much as does that of the Sandwich Islander. One most valuable test of the correctness of my view consists in the occurrence of the same enormous distance between the zygomatic bones in the Polynesian which I before claimed as a singular characteristic of the Formosan skull. This fact, far from rendering the evidence of their origin conflicting, ought, on the contrary, to contribute to verifying the maxim long since upheld by the linguists, that "the Tonga and Samoa dialects are organically allied to the Malay language", and that "the Polynesian and Malay races are virtually and originally the same". For if we have here a tribe which, in its idiom, betrays its extraction from the Malayan stock, while in its physical characteristics it leans to the eastern inhabitants of the Pacific, we must hail them as the connecting-link between the two, which hitherto has been believed to exist, but not found.

I am compelled, from want of time, to dismiss this subject; and have to offer a few remarks on those natives of northern Formosa who inhabit the hills, and appear to have no relation to those just described, but that their language will most likely prove to be another branch of the Malayan, although not in the least connected with the dialect of these Shokwans. This people, called Chinwans by the Chinese, are of entirely different physical appearance, lighter coloured, of smaller stature (measuring 5 feet 2 inches in height), of more delicate limbs, and a well-shaped oval face, their noses even tending towards the aquiline form. Mr. Swinhoe, in his paper on the "Ethnology of Formosa," has given a detailed account of their manners

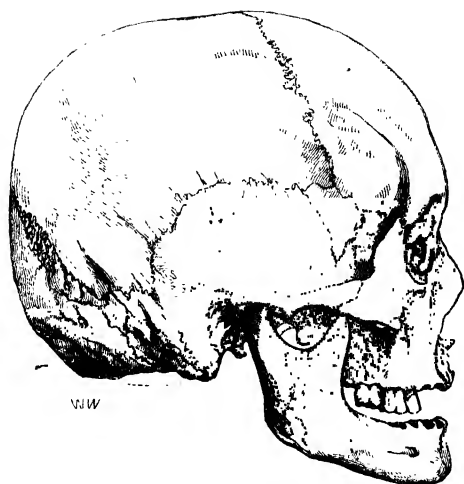
and customs; and also sketches of them, drawn from nature, which, however, as he himself remarked to me, have not received any justice at the hands of the artist and printer. I am, therefore, glad to lay before you a few photographs taken of them, and regret very much that, the people being very shy and superstitious, it was absolutely impossible to dispel their great suspicions of the photographic apparatus, and to procure as many specimens as I could have wished to obtain, the more so as the photographic representation is inadequate to render their characteristic tattooing visible. They are, as I have said, essentially a hill tribe; and I found them near Sawo-bay, as well as in the slopes of several of the hills bordering on the upper part of the Tamsui river, as also on the western side of the great mountain ridges of central Formosa. Mr. Dodd, of Tamsui, informed me that he had met with the same people some distance down to the south, I believe as far as sixty or eighty miles, and that there they still speak the identical dialect. But this native race also is sadly on the decline; as Chinese aggression has driven them into the inhospitable heights, and forced them to lead an unhappy life in those moist and unhealthy primeval forests, where they subsist on the chase, and such small quantities of rice as the Chinaman, eager to dispossess them of their valuable camphor-wood trees, from time to time barter to them for some territory, or a few articles of industry, such as woven cloth, etc. Smallpox and Chinese *samshoo* are doing the rest to destroy this formerly strong and warlike race.

The few measurements I was able to take of them, tend to prove their physical difference with the so-called Shekwans of the plains, which their manners, and customs, and their language indicate. For the latter, I must refer you to the paper on Formosan dialects, already mentioned; but I will not omit to express my opinion as to a nearer relationship being likely to turn out between this and some other Malayan dialects than I was at first, with the few means at my disposal, inclined to believe.

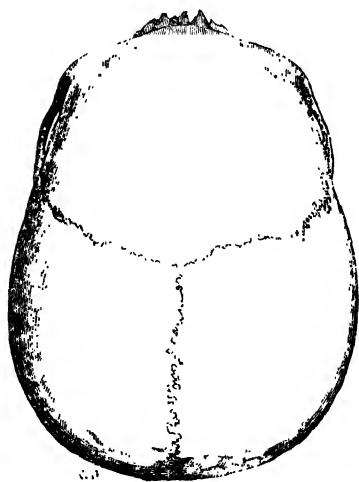
One more important feature in the craniology of Formosa has to be considered,—the existence in the south of the island of a tribe or tribes totally unconnected with those described by me, *i. e.*, anthropologically speaking. As a proof of what I have said, I exhibit you these two skulls. Desiring to ascertain the nature of the tribes of the south, I had for some time requested friends in Formosa to procure some heads from thence. These at last, and apparently with great difficulty, succeeded in having two entire heads sent down from the hills, and de-



FRONTAL, LATERAL, AND VERTICAL VIEW OF THE SKULL, II B.



W.W.



LATERAL AND VERTICAL VIEW OF THE SKULL, I A.

livered over to my agents. These heads had been cut off according to the warlike fashion, which also, in former times, was known to exist amongst the aborigines of Formosa, and still continues a practice in Borneo, Luzon, and some of the Polynesian islands, and consequently the bones were much destroyed. The faces, though a little disfigured by decomposition, presented features different from all the natives of Formosa that I had seen, resembling more those of the wild Indian tribes of Luzon than of any other race. In making assertions like these, concerning the outward appearance of different races of mankind, I am fully aware of the difficulty attending them, and the many sources of error which have hitherto caused such observations to be mostly of a vague, conflicting kind. But deprecating, as I do, any but a scientific way of treating anthropological subjects, I hope an occasional remark as this may be accepted as collateral evidence, the more so as further application will aid in bringing out the same result.

These two crania are also of different age; the one being that of an individual upwards of fifty, whilst the other does not appear to be much beyond thirty years of age. Both are seriously injured; the aged one having lost the whole of the tribasilar, some part of the occipital, the ethmoid, and other bones constituting the orbit; the younger one having retained the hinder portion of the tribasilar, but being otherwise in no way better preserved. The points presenting the greatest interest are:—

1. With reference to shape and conformation of bones, they do not nearly come up to the weight and bulk of the other two Formosan skulls, nor do they resemble them in any of their prominent features. The frontal bones rise much more vertically, and show very little prominence of the supraorbital ridges, although the frontal sinuses, in the one skull at least, are well developed. The occipital bone forms a curve, with which the occipital protuberance interferes but slightly. The peculiarity in the shape of these two skulls consists in that tendency of the roof to assume a square towering appearance, with the tubera well marked, and the parietals falling abruptly off to the occipitals, so that two kinds of planes are here formed; the one, on the top of the roof; the other, on either side of the parietal, exactly in the angle between the temporal and occipital squamæ. The former plane is a characteristic of most Malayan skulls; while the latter planes I have already, during my wanderings in the Philippines, been accustomed to regard as an important leading character of the natives there. Nay, it has there impressed me with such vivid clearness that, on consulting my journal of travels, I find it men-

tioned many a time, and twice as having aided me in discarding native individuals who were brought up to me as Negritos. On viewing the skulls from the top, they present a short egg-shape, with the greatest width nearly central. In this position the prominence of the tubera may also be clearly seen. The interior offers nothing unexpected, being generally much of the same shape as the outer surface, but showing some indentations caused by brain convolutions. The face is much more proportionate than that of the other two skulls. With regard to the question of prognathism, that most overrated of all craniological tests, I have adopted the principle laid down by Prof. Huxley, of expressing it by means of the angle formed by the basicranial axis, and a line drawn from its anterior end to the spine of the upper jawbone, which, in our two skulls, will be hardly more than 90° . Notwithstanding, in the one skull, anyone not versed in anatomy might still detect prognathism, which, however, in this case, as in a great many others, is nothing but prominence of the maxillary process alone. This I have, for some time, been in the habit of terming false prognathism, and in my table you will find it represented by the difference between *nl* and *mp*.

2. Comparing the dimensions of these two skulls with others, you will notice that the two main indices vary but little with those of the Malaysans generally, and those of the Philippine islanders especially. To the small difference still showing, I am not inclined to attach much weight, as you can, first of all, never expect identity in a limited number of skulls; and secondly, because the various tribes of Malayan origin labour themselves under some fluctuation in this respect. An instance of this I have given you in the figures representing the cephalic index found in different provinces of Lugon. Not less than by the generality of the proportions mentioned just now, these skulls are separated from those first exhibited by the distance of the zygomatic bones, in which they do not even approach the skulls of the Malays, but range exactly with the smaller of the two Philippine crania of the College of Surgeons.

The conclusions we may draw from the examination of these skulls, enable us to throw out the proposition, that in the south of Formosa are still to be found some tribes resembling strongly those of the Lugonese in their anatomical characters, —a fact which is quite in keeping with the proximity to Formosa of the Bashee islands (Babuyanes), inhabited by Slocos and Cagayan people, as well as with the circumstance that amongst the scattered rudiments of several small dialects of the south, there are still preserved, though in a wretched and mutilated state, the associations of more than one idiom of Luzon.

TABLE I.
CONTAINING VARIOUS MEASUREMENTS OF FOUR FORMOSAN SKULLS.

	Length	Width	Height	nb.	bn.	mb.	b.	bo.	nn.	zz.	Vertical.		Length of Arch.			Median Arch.		Lower Jaw.	
											Antr.	Post.	Front.	Pariet.	Oecip.	Horiz.	Ascend.		
I { A	182	130	140	104	94	62	66	117	47	94	46	72	500	124	136	108	314	(Greatest length.)	50
I { B	186	135	140	104	95	62	68	128	54	109	52	77	508	126	130	116	316		
II { A	180	143	138	103	90	56	62	113	52	93	62	76	510	134	134	120	320		
II { B	172	144	130*	100*	90*	62*	60*	110	49	97	50	76	505	125	114	112	318	94	50
																		96	50

REMARKS.—I A. The alisphenoid does not join the parietal. All sutures open, except the frontal. I B. The alisphenoid joins parietal. The coronal and lambda sutures are closed. II A. Long suture between alisphenoid and parietal. All sutures open, except frontal. II B. Alisphenoid joins parietal, coronal, sagittal, and lambdoid, in process of ossification.

Notes.—All figures mean "millimètres". The height is obtained by measuring the distance between the anterior margin of the foramen magnum and the point where the coronal and sagittal sutures meet. The letter *b* refers invariably to the anterior margin of the foramen magnum; *nb*=the distance of *b* from the fronto-nasal suture; *bn*=distance from the spina nasalis of the maxillary; *b*=length of the tribasilar; *bo*=distance from the point of union between sagittal and lambdoid sutures. The letters *nn* express the distance of the spina nasalis from the root of the nasal bones. The distance between the lower points of termination of the zygomatico-maxillary sutures is shown by the value of *zz*. For the explanation of the "anterior and posterior vertical", see the paper. C is the circumference taken in the usual manner, while the "median arch" begins and terminates at the upper margin of the auditory canal, and passes the junction of the coronal and sagittal suture.

The skulls Ia and Ib resemble the Polynesian type, IIa and IIb the Malayo-Philippine.

The five measurements of IIb marked * are not to be considered quite correct, as much of the basilar bone is missing.

TABLE II,
SHOWING COMPARATIVE MEASUREMENTS AND PROPORTIONS OF FORMOSAN,
CHINESE, MALAYAN, AND POLYNESIAN SKULLS.

		Cephalic Index.	Index of Height = Height : Length.	Malar Index = zz : breadth of skull.	Greatest Breadth of Skull.	Greatest distance of zygomatrical arches
FORMOSAN.	Living individuals } Plains.					
	in the north } Men -	77.				
	" " } Women	76.				
	" " } Hills.					
	" " } Men -	83.3				
CHINESE.	" " } Women	80.				
	Skulls in my possession—					
	I. A and B	73.	79.	77.	As measured by Dr. Davis, and	given in British inches and decimals.
	II. A and B	81.4	79.	66.5		
	Living individ. south of China	80.3				
MALAYAN RACES.	Skulls in the Museum of the College of Surgeons, England	79.5	76.7			
	Skulls in my possession - -				5.3	5.
	Dr. Barnard Davis's Skulls -	76.	79.			
	Skulls in the Museum of the London Hospital - -	78.	76.8	69.		
	Meas. in living subjects, Celebes	81.				
	" " " Bugis	83.				
	" " " Sincapore	81.				
	" " " Javanese	86.				
	" " " Dayaks	82.				
	Malayan Skulls, College of Surgeons - -	80.	76.7	68.		
	" Anatomical Museum of Kiel - -	81.	79.			
	PHILIPPINE ISLANDS. { Living Tagalocs - -	82.5				
	" " " Bicolos - -	83.5				
	" " " Women of Manilla	81.5				
	Skulls in College of Surg.	83.5	77.	67.		
	" " in my possession -	83.5				
	" " of Bisayans, by Davis	80.	79.		5.4	5.
	Sandwich Islands, Skulls, College of Surgeons - -	73.	78.	77.		
	Feejee " " " -	75.3	76.7	70.		
	" " " by Davis	72.	77.		4.9	4.6
	Skulls of Maori men " -	75.	80.		5.3	5.4
	New Hebridean " " -	69.	75.7		5.8	6.
	New Caledonian " " -	71.	78.		5.1	5.3
	Loyalty Islanders " " -	69.	77.		5.	5.2

In summing up the results of my investigations, I am enabled to say that, up to the present time and with our state of knowledge, we may determine three different races of natives in Formosa. One of these, evidently the most powerful, and formerly occupying a foremost position, forms a connecting link between the Malayan and Polynesian races in their language and craniology respectively. The second, although, through its language, allied to the Malayo-Polynesian, has not been satisfactorily placed yet with respect to anatomy. The third may be looked upon as representing the many small tribes who have, in the lapse of centuries, migrated over from the nearest islands, in the well-known true spirit of Malayan races. The point which remains open for discussion, is the relation of the present tribes to those which were known two hundred years ago. This question, I consider, is of very difficult nature, as none but meagre information can be gained concerning it.

XXV.—*An Account of the Hill Tribes of the Neilgherries.* By J. SHORTT, M.D., F.L.S., M.R.C.P.L., and L.D.S., Superintendent-General of Vaccine, Madras Presidency.

[Read June 23rd, 1868.]

PART I.—INTRODUCTION.

IN collecting and arranging all the information I have here put together regarding these interesting tribes, it is quite possible that some errors and many omissions may have occurred, although every care was taken to avoid such, and none but the most reliable information has been inserted. It may not, perhaps, be out of place to mention here the mode in which most of this matter was collected. I was on the Neilgherries during two seasons, and accompanied by a staff of vaccinators. I visited the greater part, if not all, of the munds, mottas, or hamlets, of the several tribes, and took advantage of the opportunity of quietly eliciting all the information I could by personal and frequent intercourse with the members of each tribe. Going about their hamlets, and entering their very habitations almost daily, as I did, with the ostensibly kind object of treating their sick, and conferring on the unprotected the boon of vaccination, I found no difficulty in winning their entire confidence, nor did they suspect I was an information hunter; and thus I obtained full and unreserved information upon every point that occurred to me to inquire about. I always took care to select as my informants the shrewdest and most intelligent of each hamlet.

The Todas, as a class, are much spoiled, so much so, that nobody now-a-days can go to see them without paying a *douceur*, which, if not gratuitously offered, is sure to be asked for and expected as a right; nor are they so unsophisticated and unreserved in their colloquial circumstances with strangers as they were at one time, and for which they were remarkable.

Whether the views I have here ventured to put forward, and the analytical reasoning and analogy upon which they are based, have been made sufficiently clear and consistent as to lead others to adopt the same opinion as myself regarding the remote history and origin of these interesting aboriginal tribes, I must leave *sub judice*, for the impartial judgment of the public to decide.

I have been over two and a half years collecting information of these hill tribes, and I have taken advantage of the opportunities afforded by my appointment of seeking information in every district in this presidency, over all of which I have been, and have in most districts consulted both Europeans and natives as to how far the peculiar social habit of polyandry, as practised among the Todas, prevails among other tribes in India. I have also consulted with some of the more learned pundits, and others, on the subject, and all the reliable information thus obtained I have brought to bear on the question.

The various weights and measurements were made by myself, as correct as it was possible to effect. The difficulty and trouble in completing these measurements was so great as to form the chief cause in the delay of finishing this paper; for it was no easy matter, notwithstanding the free use of money in the shape of fees, to get the men to submit, much more the women. I am indebted to numerous friends for much help on these occasions; they are too numerous to name here. I made it a point to seek assistance wherever procurable at the time. I have taken the weights and measurements of a large number of tribes in various parts of India, whilst others are still incomplete. As a rule, I do not strike an average until I have obtained the measurements of twenty-five individuals of each tribe.

I have also consulted every work I could lay my hand on which either treated on hill tribes, or on cognate subjects; viz., Captain Harkness's *Description of a singular Aboriginal Race inhabiting the summit of the Neilgherry Hills*; *The Antiquities of the Neilgherry Hills, including an Inquiry into the Descent of the Thantawars, or Todas*, by Captain H. Congreve; *Madras Journal of Literature and Science*, No. 32, January to June 1847, p. 77; *The Tribes Inhabiting the Neilgherries*, by a German Missionary; *Goa, and the Blue Mountains*, by Richard F. Burton, Bombay Army; Captain Ouchterlony's *Topographical Report of the Neilgherries*, *Madras Journal of Literature and Science*; Smoult's edition of Bakie's *Neilgherries*; the file of the *Neilgherry Excelsior Newspaper*; *Memoranda of Toda Population*, by the Rev. Mr. Metz, of Kaity; Caldwell's *Comparative Dravidian Grammar*; Major Cunningham's *Bilsa Topes*; Dr. Balfour's *Second Supplement to the Cyclopædia*; Abbé I. A. Dubois' *Description of the Character, Manners, and Customs of the People of India*; *A View of the History, Literature, and Religion of the Hindoos*, by the Rev. W. Ward, etc.

The "Paul Broca's" tables, alluded to in this paper, are coloured plates of the eyes and skin, giving their different shades, and numbered; the former, from 1 to 20; the latter, from 21 to

54. A reference to these plates, according to the particular number, gives at once the colour of the eyes and skin.

In conclusion, my thanks are due to the Rev. W. Taylor, to whom I submitted the manuscript containing that portion of the remarks on the Todas, in Part II, and was glad to find that this gentleman entirely concurred with me in the views expressed. It is but right that I should here state that, since Mr. Taylor had seen the manuscript, I have added several notes to this part.

Part III, on "The Cairns and Cromlechs," was also submitted for Mr. Taylor's opinion, and he was so good as to make a trifling correction to that portion which relates to his own translation, and as the manuscript was returned without a note, I conclude that Mr. Taylor agrees in my views here also.

My thanks are also due to P. Grant, Esq., the Collector of Coimbatore, for the strength of the population, and other information regarding these hill tribes; and lastly, I am greatly indebted to my assistant, Mr. Sub-Assistant Surgeon William Kearney, who had resided some time at Wellington, and had observed a good deal of these tribes. He was thus able to give me information on several points.

LIST OF PHOTOGRAPHS ATTACHED.—*Todas.*

Two. —6 × 9.—Groups of males and females, separately; mounted.

Four.—6 × 9.—Ditto, two of single individuals, male and female, and two of groups, separately; unmounted.

Two. —Carte-de-visite size of an old man and young girl, separately.

Kotars.

One. —6 × 9.—A group, comprising one man and two women; unmounted.

Badugas.

One. —6 × 9.—Male; unmounted.

Kurumbas.

Two. —6 × 9.—Groups of men and women, separately; mounted.

One —6 × 9.—Unmounted.

One.—11 × 9.—A Toda mund, showing the huts forming the mund; mounted.

AN ACCOUNT OF THE TRIBES INHABITING THE NEILGHERRIES.

Description of the Neilgherries.—In southern India, stretching between 76° and 77° of east longitude, and 11° and 12° of north latitude, the Neilgherries, or, as they are more literally called, the "Blue Mountains,"—from *Neil*, "blue", and *gherry*, "a hill",—comprise two distinct ranges of hills, which traverse the district of Coimbatore somewhat in the form of a horse-shoe, and blend at one extremity with the Western Ghauts. One of these ranges is called the Neilgherry Proper, and the

other, the Koondahs. These hills, on their northern aspect, slope off rapidly into a declivity, which terminates in the broad and elevated plateau of the Wynaad and the Mysore country, a fine and commanding view of which is obtained from some of the higher elevations. Tradition still points to one of these heights as having been used as a watch tower, to scan the movements and operations of the European foe, during our wars with Hyder Ally and Tippoo Sultan. On the Malabar side, the Neilgherries approach the seacoast to within a distance of forty miles; while on the east they are two hundred and thirty miles from the opposite seashore.

Taken together, these two ranges embrace a geographical area extending over 268,494* square miles, and their summit is greatly diversified by peak and valley, plateau and undulation, in alternate succession. The peaks vary in altitude; the higher of them ranging from 5,000 to 8,000 feet above the level of the sea. Dodabetta, which is the highest peak in Southern India, attains to an elevation of 8,760 feet above the sea, and 1,344 feet above Ootacamund, which is situated in a bowl or basin, sheltered by a surrounding range of low hills. Until recently, an observatory was maintained on the summit of Dodabetta, and meteorological observations were regularly registered.

Climate of the Hills.—These hill ranges, from their natural altitude and geographical position, are subject to the influence of both monsoons; and are noted for possessing a climate, which, for mildly invigorating properties and equable seasonal changes throughout the year, is perhaps unrivalled anywhere within the tropics. From the observations of twenty-five months, the annual mean temperature enjoyed on the summit of the Neilgherries has been fixed at $58^{\circ} 68'$, a mean that is seldom experienced on any other mountain range in India.†

Natural Productions.—The Neilgherries are also remarkable for the wealth and profusion of their natural productions. The sides and slopes of these hills are clad with vegetation, which occurs in irregular patches, and presents, in natural order and description, an ever-changing variety at different elevations. Starting from below, the base is overgrown and concealed by tall grasses, among which the graceful bamboo is ever conspicuous; next in order, large and lofty forest-trees, such as the Saul (*Shorea robusta*), kino (*Pterocarpus Marsupium*), Jack (*Artocarpus integrifolia*), Blackwood (*Dalbergia latifolia*), Teak (*Tec-*

* Vide Captain Ouchterlony's "Geographical and Statistical Memoir," published in the *Madras Literary Society's Journal*, Jan. to December, 1848.

† Vide Bakié's *Neilgherries*, edited by Smout, p. 7.

tona grandis), and others, yielding valuable timber, appear; then follow great belts of low jungle, or *sholas*, in which the tiger, cheetah, bear, wild hog, and other beasts of prey, find a covert retreat; while among the forest-trees the wild elephant roams in lordly majesty. Higher still, ferns in endless variety are met with, associated with the coffee-plant, and further on with the tea-plant, both of which are cultivated on an extensive scale, and promise to yield a harvest from which numerous European settlers hope to realise wealth at no distant period. On the summits of these hills, the Australian tree,—a handsome species of acacia, (*Acacia lophanta*, *Acacia robusta*),—the blue gum (*Eucalyptus saligna*), the poppy, the Neilgherry nettle (*Girardinia Deschenaultii*), the berberry (*Berberis mahonia*), and other valuable fibre and dye-yielding plants are either indigenous, or have become naturalised to the soil; and of late years the invaluable cinchona has been imported, and its cultivability is now an established fact, as it thrives with vigour, and bids fair to vie with the species produced on the Andes, its mother soil. The hop also has been cultivated on a small scale, and with great success; and, I believe, beer of a good and wholesome kind is manufactured from it. There are also vast varieties of indigenous as well as exotic floral plants, fruits and vegetables, which, for beauty and perfection, are scarcely surpassed by those of more genial latitudes. Among fruits, the grape, plum, apple, peach, pear, and orange, are obtained of a racy kind and flavour; while the strawberry, raspberry, and wild gooseberry (*Rhodo-myrtus tomentosa*)—the latter a myrtaceous plant—grow luxuriantly in all parts. Of vegetables, the potato, pea, turnip, cabbage, cauliflower, beetroot, celery, and parsnip, are produced, of a very superior description, without much care or labour. Wheat, barley, millet, and a variety of pulses, are cultivated. Rice grows, but does not thrive, in the valleys.

European Sanitaria, or Invalid Stations.—No sooner were these hills discovered, and their eminent and other climatic advantages known, than Europeans began to establish sanitaria on the more extensive flats, which, at first, were chiefly resorted to by invalids; but at the present time they form stations, whose population, size, and importance, are almost daily increasing. There are at present five sanitaria, or invalid stations, in existence; namely, Ootacamund, which is by far the largest and most frequented; Coonoor, Wellington, the Military Convalescent Depôt; Kotagherry, and Dimhatty.

Date of Discovery by Europeans.—It would appear that these hills were first entered by Europeans in 1814, when, it is said, a Mr. Keys, a sub-assistant engineer, and Mr. McMahon, an apprentice of the Survey Department, penetrated into the

remotest parts of the plateau, and sketched portions of it, which were submitted to the Madras Government, accompanied by a report of their discovery.* Others, however, ascribe their discovery to Messrs. Whish and Kindersley, of the Madras Civil Service, who, it is reported, came upon them by accident in 1819, while in pursuit of a gang of tobacco smugglers; but, whoever may have been the first discoverers, it is not known that Europeans made any attempt to settle on these hills until the year 1820, when John Sullivan, Esq., then collector of Coimbatore, was induced to visit them at the solicitations of the hill tribes, and to this gentleman is due the credit of having built the first house, which, it may be said, formed the nucleus of the large station of Ootacamund, now the most salubrious hill sanitarium in Southern India.†

To Mr. Sullivan is likewise due the credit of having first directed the attention of Government to the fitness of the locality, where Ootacamund now stands, for the establishment of a sanitarium.

Local Names of the Hill Divisions.—Amongst the hill tribes, the entire plateau is divided into the four following Naads:—(1) Paranganaad, or Porkhor, as it was formerly called; (2) Maykanaad, or Khorror; (3) Koondanaad, or Mheur; (4) Tudanaad, or Muzzor.

General Description of the Tribes.—There are five distinct tribes found inhabiting these hills, viz.:—(1). Todawars, or Torawurs, who are reputed to be the aborigines, and, it is said, were once clad in leaves, and roamed as free and unrestrained lords of the soil, leading a pastoral nomadic life: (2) Badagas, who, by all accounts, made their appearance on the hills at a later period, and occupied the lower elevations (this tribe engage themselves chiefly in the tillage and cultivation of the soil); (3) Kotars; (4) Kurumbas; (5) Irulas. These three latter tribes are a class of serfs, and each of them is subdivided into minor sects or castes, which in ethnological features, as well as from other points of view, differ somewhat from one another.

Toda Tribe.—Todawars, or Torawurs,—the literal name given to herdsmen in the Tamil language,—are the principal tribe, and are believed to be the original inhabitants, as well as the territorial sovereigns of these hill tracts. Not only do the Todas themselves claim this priority of existence and possession, but the right is conceded to them by the other hill tribes,

* *Vide The Neilgherries*, by B. Bakie, Esq., M.D., edited by W. H. Smoult, 1857, p. 27.

† *Vide Bakie's Neilgherries*, edited by W. H. Smoult, p. 6.

who, in recognition of it, always paid a tribute to their Toda lords, consisting of one-sixth of the produce in kind; but, under the British Government, this practice is being gradually discontinued.

Intersections of the Toda Tribe.—The Toda, or Thoddur, tribe consists of five distinct intersections or subdivisions, namely, (1) Peiky; (2) Pekkan; (3) Kuttan; (4) Kenna; and (5) Tody. Like the Hindoos of the plains, these several sects do not intermarry with each other, and their ceremonies, social habits, and customs, differ in several minor points; but unlike the Hindoos, they have no (strictly so called) caste institution, for they freely fraternise, and eat with each other.

ETHNOLOGY.—Toda Tribe.—In *physique*, the Todas are by far the most prepossessing, as a tribe; and it is this superiority in personal appearance, in conjunction with their singular costume, peculiar mode of wearing their hair, their bold and self-possessed deportment, and unique social and domestic institutions, that have at all times attracted for them the greatest share of attention and interest from Europeans. In complexion, the Todas are of a dull copper hue,* not deeper or darker in colour than most of the inhabitants of the plains; but they are darker than the Badagas and many of the Kotars, a few of whom are met with fairer even than the Badagas. The Kurumbas and Irulas are not only darker than the Todas, but strikingly so to the eye. The Todas are tall in stature, well proportioned, and in features partake of the Caucasian-type:—*head*, slightly elongated, like the Hindoos; *forehead* rather narrow and receding, measuring $2\frac{1}{4}$ inches from the root of the nose to the growth of hair and scalp; *eyebrows* thick, and approaching each other; *eyes* moderately large, well formed, expressive, and often intelligent,—*irides*, varying in colour from hazel to brown;† *nose*, long, large, and well-formed, generally aquiline,—in some slightly rounded, arched, or what is termed Roman, in others, cogitative, measuring from root to tip $2\frac{1}{2}$ inches, and height from base of alæ to ridge $1\frac{1}{2}$ inch, breadth of alæ from side to side $1\frac{1}{2}$ inch; *upper lip*, narrow; *lower lip*, thick or full, and face covered with a close thick moustache, whiskers, and beard, all of which are worn full; *ears* of moderate size, and lying close to the skull; *teeth* white, clean, and regular; head well covered with black hair, of moderate fineness, and worn in a peculiar fashion, combed smoothly around from the crown, and cropped evenly in line with the eyebrows,

* Agreeing in this respect with Paul Broca's Tables, No. 28.

† The majority being intermediate with Nos. 1 and 2 of Paul Broca's Tables.

and covering the head very much like a natural skull-cap; body of the male, hirsute, especially on back and chest; *figure and contour of person* generally attractive, and carriage graceful. Of twenty-five men, I found the average weight and measurements as follow:—weight, 121·40 lbs.; height, 63·30 inches; circumference of head, 20·81 inches; neck, 12·81 inches; chest, 32·22 inches; arms, 9·36 inches; thighs, 16·64 inches; length of arm from acromion process to tip of fingers, 32 inches; length of hand, 7·50 inches, breadth, 3·50 inches; lower extremities, well proportioned, with moderate calves; feet, well formed and arched; length of foot, 11·50 inches, width of sole, 4 inches.

Females of the Toda Tribe.—The women of this tribe are generally tall and stalwart; good-looking both in features and person, with a smooth, clear, and delicate skin; fresh and rather fair in complexion. They have more of an aquilino nose than the men, which, however, does not diminish from the strong feminine cast of their features. The hair is of a lighter colour than in the male, parted in the centre, and carefully combed around and thrown behind the ears, and left hanging free over the shoulders and back, in a mass of flowing curls in some, and in others wavy. I have not seen any of the women with very long hair. In those I met, it did not exceed $1\frac{1}{2}$ or 2 feet in length, and was of moderate fineness. The females, like the males, are self-possessed in a great degree, and readily enter into conversation with strangers, be they white or black. It has been averred that the Toda females, as a class, are strikingly handsome and comely in features; but although many of them certainly possess charms in person of a robust character, I cannot say that I met with even one with a handsome or pretty face, much less any with features approaching in perfection or beauty to a classical model.

From an average of twenty-five, the following weight and measurements were obtained:—height, 60·25 inches; weight, 110·80 lbs.; circumference of head, 20·8 inches; neck, 11·11 inches; arm, 8·90 inches; chest, 30·11 inches; thighs, 14·6 inches; length of arm, 27 inches; length of hand, 6·75 inches, breadth, 3 inches; forehead, from root of nose to growth of hair on scalp, 2 inches.

The women are tattooed about the arms, chest, and legs, in the following manner:—three semicircles of dots on the outer side of each arm, each semicircle containing nine points; a double row of dots across the upper part of the chest, about an inch below clavicle, each row consisting of 36 points, about one-eighth of an inch apart, the rows themselves being one inch distant from each other,—those on the arms have an in-

tervening space of two inches ; two rows containing eight or nine points each on the shoulders, commencing in front where the lines on the chest terminate, and extending backwards to a point on a level with the superior semicircle on the arm ; a solitary dot in the centre of the chin ; two circular lines of dots on each leg, the upper circle containing twenty-five, and the lower only twenty dots ; and a row across the dorsum of each foot, numbering from nine to eleven points. The terminal point of each row is marked by a ring, the interlinear points being simple dots frequently taking the form of squares.

Costume.—Among the Todawar tribe, the costume of both male and female is peculiar, and merits description. In the male, it consists of a piece of cloth, called a “lungooty,” which is passed between the thighs, and fastened at both ends to a piece of string, tied round the waist so as to conceal the organs of generation,—a practice common to all classes of the Indian races, both on the plains and elsewhere. Besides the lungooty, the Todawar tribe wear a stout cotton mantle or toga, which forms their only covering by day and night. This toga is thrown across the right shoulder, overlaps the left arm and trunk, and descends to the knee, thus forming a most simple and rather graceful attire. Unlike the low country tribes, they wear no turban or head-dress, and their feet are always bare. It is the classically elegant toga and unturbaned head that serve to distinguish the Toda tribe so much from the others, and to render them so interesting to the European eye. The toga has latterly been adopted, to a certain extent, by the Badagas and Kotars, as an over-covering by day, and as a bed by night ; and as it is generally of woollen texture amongst them, it serves also to protect them from the inclemencies of the climate.

The toga, as now worn by the Todas, weighs five pounds each.

The Todawar females are also clothed in the same simple style. The toga, or mantle, is the only habiliment used to conceal their naked charms, and it is so wrapped around them as to cover the entire person from shoulder to ankle. Some of them wear a piece of calico around the loins, extending down to the knees, in addition to and under the toga.

Personal Habits.—Both males and females, as a class, are very dirty and filthy in their person and habits. They appear to have an antipathy to bathing ; and to make matters worse, they have a practice of anointing their bodies with *ghlee* (melted butter), which they rub on their arms, chest, and head ; and as this substance soon becomes rancid, the odour on approaching them is anything but agreeable.

Ornaments.—The women of all the tribes manifest a fond-

ness and partiality to wearing ornaments. Their ear rings are made of brass, silver, or iron, and consist of simple chased rings from 2 to 2½ inches in diameter. Necklettes, made of cowrie shells strung together, or small linked metal chains, are also worn, as well as massive brass armlets on the right arm above the elbow, the skin underneath being protected by a band of woollen cloth or leather. Each of these armlets weighs six pounds. Bracelets, made of silver or iron, are worn by some on the forearm above the wrist joint. One or more copper rings filagreed, and to which a number of charms of various devices are attached, are worn on the left arm above the elbow; and above the left wrist joint there is usually a bracelet of beads. Besides these, a massive girdle or chain of brass or iron encircles the waist. Necklaces of plaited hair or black thread, with bundles of cowrie shells and other charms suspended, are worn by many. Their children are decked out with rows of beads, silver or iron chains, placed around the neck. The men also wear ornaments—small gold rings in their ears, chains of silver around their necks, rings on their fingers; and those well to do, silver wire girdles or waist chains.

Social, Moral, and Domestic Habits.—In their habits, these hill tribes are as simple as can be. The Todawars are entirely a pastoral race, and lead a peaceful tranquil life, chiefly employed in tending their cattle. They carry no weapon of offence or defence for protection against enemies of their own kind or wild beasts, except a cowherd's wand or staff, which is made of jungle wood generally, about four feet and a half long with a large knob or head; and on their shoulders they carry a small axe, the handle of which lies against the chest, and the blade rests on the shoulder. While tending their herds, this staff is used as a support to lean upon.

On festive occasions, all the tribes freely fraternise, and participate in the feasting, dancing, and display of animal spirits, by which these social gatherings are usually characterised. Old feuds or dissensions that may have existed between clans or individuals are settled by mutual compromise, and harmonious feeling and friendship are established between all parties on these occasions.

Tobacco smoking is common amongst all the tribes, and many use opium. Of late years, they have taken to drink arrack,* and most of their women have been debauched by

* I have seen a Toda swallow a large glass (claret) of raw brandy, given him by a planter, with the greatest ease, and at one draught, as if it were a glass of water.

Europeans, who, it is sad to observe, have introduced diseases to which these innocent tribes were at one time perfect strangers, and which, as they have no means of curing, are slowly, but no less surely, sapping their once hardy and vigorous constitutions. The effects of intemperance and disease (syphilis) combinedly are becoming more and more apparent in the shaken and decrepit appearance which at the present day these tribes generally present.

If there be one feature more than another that has contributed to invest the Todāwar tribe with the great share of interest, or rather curiosity, evinced towards them at all times by Europeans, it is their practice of polyandry, which, as long as they have been known, has been maintained, and is still perpetuated, as a social system among them. Their practice is this: all brothers of one family, be they many or few, live in mixed and incestuous cohabitation with one or more wives. If there be four or five brothers, and one of them, being old enough, gets married, his wife claims all the other brothers as her husbands, and as they successively attain manhood, she consorts with them; or if the wife has one or more younger sisters, they in turn, on attaining a marriageable age, become the wives of their sister's husband or husbands, and thus in a family of several brothers, there may be, according to circumstances, only one wife for them all, or many; but, one or more, they all live under one roof, and cohabit promiscuously, just as fancy or taste inclines. Owing, however, to the great scarcity of women in this tribe, it more frequently happens that a single woman is wife to several husbands, sometimes as many as six. When any one of the brothers or husbands enters the hut, he leaves his wand and mantle at the door, and this sign of his presence within prevents the intrusion of the others. As a direct consequence of this demoralising and revolting practice, prostitution is exceedingly common, while chastity is a rare virtue among Toda women; and the ties of marriage and consanguinity are merely nominal. In keeping with this peculiar marriage system, they adopt a method of affiliation all their own: that is, the first born child is fathered upon the eldest brother, the next born on the second, and so on throughout the series. Notwithstanding this unnatural system, the Todas, it must be confessed, exhibit much fondness and attachment towards their offspring, more so than their practice of mixed intercourse would seem to foster. Of this, I had personal opportunities of satisfying myself when conducting vaccination amongst them: I have frequently seen the Toda mother, on hearing the cries of her child, exhibit marked maternal feeling and distress. There is no doubt that, anterior to the reclama-

tion of these Hills and their occupants from their original state of rude barbarism, female infanticide was practised amongst them; but this hateful crime, it is gratifying to record, has long since become extinct through the active operations of the British Government. It is unknown now, except as a traditional fact of the past, to the truth of which the tribes themselves bear the best testimony. The system adopted in destroying infants, when the practice prevailed, is believed to be that of smothering the new-born child in a dish of buffalo milk.*

Internal Economy or Government of their Communities or Societies.—Among themselves a primitive kind of patriarchal government exists. All disputes and questions of right and wrong are settled either by arbitration or by a Panchayet; i.e., a council of five, whose decision on all matters is considered absolute and binding. The system of adjudication of civil and other rights obtains in all parts of Southern India.

Language.—The language of the tribes on the Neilgherries is unmistakably Tamil, although what is now spoken is a mixed dialect, being a jargon of Tamil and Canarese. At first, it is difficult to understand what they say, owing to their peculiar low muttering, rapid utterance and guttural expression; but if close attention be given, and they are made to speak slowly, their language becomes intelligible to any one conversant with both Canarese and Tamil.

Their pronouns and verbs appear to have been derived from the Tamil. Their language is purely oral, and is devoid of any written character or symbol.

Occupation, Trades, and Employments.—The sole occupation of the Todawar tribe, as has already been stated, consists in tending their cattle, conducting dairy operations, and building or repairing their huts. They are indolent and slothful, and may be seen sitting listless and inactive for hours and hours together, apparently unconscious of everything around them, and seeking no companionship whatever. The wives are treated by their husbands with marked respect and attention, and, unlike most of the Indian races and natives of the east generally, are not regarded as mere household slaves: they are left at home to perform what European wives consider their legitimate share of duty, and do not even step out of doors to fetch water

* The Todas, as a body, have never been convicted of heinous crimes of any kind. They were once given to the habit of abducting young women of their own class; but this habit has been long given up. In the event of an elopement, there was a great deal of excitement for the time, and the fair one was rather pleased than otherwise at the interest displayed in her cause. The affair generally terminated in a lot of loud talk and a feast, and a determination not to say a word about it to the (sircar) authorities.

or wood, which, for domestic or other purposes, is brought to them by one of their husbands. The Toda women employ their leisure hours in embroidery work, which they execute in a clever off-hand manner; others amuse themselves in singing, of which all appear very fond.

Diet.—The diet of the Todawar tribe consists of milk, curds, ghee, and the different millets and cereals grown on these hills. It is said that formerly they lived exclusively on the milk of the buffalo, with such roots, herbs, and fruits as the forests produced; but they now make use of rice, wheat, barley, and other grains. They also eat the flesh of the Sambre, deer, and some believe that they eat the flesh of the young buffalo; but my inquiries did not satisfy me that such was the case. The rice is boiled in the usual way. The wheat and other grains are either made into gruel or cakes and thus eaten. They also make use of milk curds and ghee—the latter largely, either mixed with food or by itself. Salt is only made use of occasionally with their food, perhaps once in three or four days.

Marriage Rites and Wedding Ceremonies.—Among the Toda marriages are contracted in a style to which, for simplicity and the absence of ceremony, it is difficult to find a parallel elsewhere. Unlike the natives of the plains, youth marriages are not in vogue amongst them; but, like more civilised people, the sexes marry only on attaining the age of puberty. The girls on these hills attain puberty at from thirteen to sixteen years of age, in which respect they do not differ from the low country races. No restriction, in the matter of personal choice and taste, is placed on either sex belonging to the same tribe; but intermarriages with the other tribes are not permitted. The young folks do not at first consult their parents in the matter; but carry on a courtship which is marked by more rusticity and less innocence than is customary with us on similar occasions, and at which the parents wink, if not encourage—a behaviour on their part, we may in charity pronounce as being more venial than culpable, considering their own intense unsophistication. When the season of this indiscreet sort of wooing is over, and the rustic pair are mutually pleased with each other, the successful swain leads the blushing maiden (?) by the hand to her parents, before whom they both prostrate themselves, and solicit their permission to become man and wife. Permission being granted, on the appointed day the girl is led by her parents to the homestead of her future husband, before whom she makes a graceful genuflexion, bowing her head at the same time, and he then places his foot on the fore part of her head.*

* This implies a token of submission. Among Hindoos, when "the disciple approaches his master, he prostrates himself at his feet, and the priest

If there be more brothers than one, they all do the same in turn. This, what we would consider rather irreverent proceeding, is with them, to all intents and purposes, equivalent to the solemn and binding "I will" of our marriage ceremony. The placing the foot on the head is looked upon by them as a token of respect and submission, and is used on other occasions besides marriage. The bride is now asked to perform some trifling household function,—perhaps to cook a meal or fetch some water,—her compliance with which constitutes her mistress of the new dwelling.* At one time, the bride was taken to the nearest wood, accompanied by the bridegroom and his brothers, who in turn consummated the marriage, after which a meal was prepared and partaken of by all before returning to their mund, where the girl continued to live with them in common. Friends are feasted on the day of their marriage, and a dowry, or *puceum*, is paid by the bridegroom to the parents of the bride, which varies in value according to the prosperity of the bridegroom on the occasion. The dowry usually averages in value from twenty to fifty rupees, and generally consists of milch buffaloes and household chattels of various descriptions. This marriage tie or contract thus consummated, and which scarcely can be called a ceremony or rite, is not regarded as binding either on the husband or wife; for the husband may, at will or caprice, return his wife to her parents, while she in turn may desert him and select another whom she may prefer.

No particular ceremonies are performed when a woman becomes *enceinte*; but, on the approach of labour, it used to be the custom at one time for a couple of the patient's female friends to accompany her to the nearest wood, rendering such assistance as they could during her confinement. In the meantime, the supposed father received intimation of the fact, and he prepared, for the reception of the mother and child, a temporary hut in the vicinity, to which he conducted them, and tended to their wants for about a month, after which the mother with her child returned to the mund, and rejoined her friends; but the child was carefully concealed from friends as well as strangers for some three months. No medicine is administered to either mother or child; and her food consists of the usual cooked grains, the mother nursing the baby herself. The child is bathed occasionally in warm water. When born, the navel string of the child is either cut with a blunt knife, or broken by the hands of the female friends.

places his foot on his head".—*Vide Ward's History, Literature, and Religion of the Hindoos*, p. 43.

* A similar custom prevails among the Negroes.

Funeral Rites.—On a person dying, the corpse is laid out, dressed in new cloths, and decorated with ornaments, such as the deceased possessed, and placed in a bier, which is also decked out with green boughs, twigs, and herbs, and it is thus retained in a state for several days. On the day fixed for the performance of the funeral rites, the bier with the corpse is conveyed on the shoulders of four men, and followed by a train of mourners, composed of the friends and relatives of the deceased, of both sexes and of all ages, the greater portion of whom carry bundles of faggots, or utensils containing ghee, milk, jaggery, and grain, and who chant in a doleful wailing tone an improvised *requiem*, the chief burden of which is the good qualities of the defunct individual. On arriving at the spot where the last offices are to be performed, the procession halts, and the bier is placed on the ground; the mourning relatives and friends now form a circle around it, and, sitting down, continue to wail forth their lamentations, and at the same time constantly throw handfuls of earth or grain towards the corpse. In the meanwhile, the funeral pile is being raised. When completed, the heir or nearest relative of the deceased approaches the corpse, and cuts a lock or two of hair from the head, after which the body, with its decorations undisturbed, is placed upon the pile of faggots, and other faggots are added to it; and while the process of throwing earth and grain at the corpse and the wailing of the mourners are still continued, the pile is set fire to by some near kinsfolk, and the conflagration briskly maintained by the addition of fresh faggots, and the process of cremation is effected as speedily as possible. As the body is being burnt, the relatives of the deceased conceal their heads with their mantles, and continue to weep in audible tones. After the body is completely burnt, and the pile begins to crumble, water is thrown on it, and the fire is quenched; a search is made by the relatives among the ashes for any ornaments, pieces of bone or hair, which may have escaped destruction. These are carefully picked up, tied in old mantle, and preserved as relics of the deceased.

After the performance of a death ceremony, the male members of the family sustaining the loss shave their head and face, and the females shorten their hair. This, however, is only done by the younger members to denote their respect for their seniors. This custom is not observed by all the tribes; some only put aside their personal ornaments for a time. During the period of mourning, visits of condolence are paid by other families to the family of the deceased, who daily continue to chant their lamentations, in which the visitors join. After some days, the grieving family migrates to another mund.

Among the Toda tribe, dead bodies are invariably subjected

to cremation ; and various ceremonies are afterwards performed under the notion that their deity is propitiated, and the well-being of the departed souls thereby secured in the next world. The most important of these is one at which animals are sacrificed, and great concourses of the various tribes assemble. It is usually kept up annually, and consists of feasting, dancing, slaughtering animals, and other ceremonies, extending over several days. At the present day, it is not such an exciting and imposing spectacle as it was formerly. On the first day, this annual funeral ceremony is commenced with dancing. Twenty to fifty men of the tribe open the ceremony by starting off into a kind of dance. They form themselves into ranks of two deep, join hands, and dance round and round, holding their wands in the left hand. They begin with a steady walk, shouting out ha ! hoo ! ha ! hoo ! but the pace soon quickens, the steps become more nimble, and keep time to the unvaried howling tune of ha ! hoo ! which is shouted out faster and louder. The figure of the dance commences by all merely advancing, then crossing their feet, they wheel rapidly round and fall back into files of two and two, slackening their pace into a steady walk ; the step now becomes quicker, and the evolution is repeated. These successive stages are performed without variation and in rapid alternation for a full hour, or longer, during which time those who become fatigued are replaced by others. As this exciting dance is going on, food, consisting of rice and other grains, is being prepared, and when ready, all the friends and invited guests assemble around a hut erected for the occasion by the relatives of the deceased. The men and women sit apart in separate rows, and observe an orderly decorum. The boiled rice and grain of other kinds is served out with ghee, on leafy plates, to each guest, by two Toda men, who act as attenders, and pay particular attention to the female portion of the guests. Inside the hut, over the front door of which some obsolete and current coins are suspended, some of the near relatives of the deceased are seated, serving out rice, etc., to other guests. After the repast is over, the dancing is again resumed by some ; while others, comprising the younger and more active men, proceed to where the buffaloes are penned, to make a selection of the animals intended for the sacrifice. In former times, on the death of a Toda, his entire herd was sacrificed. Men leaped into the pen with their clubs, and the animals were beaten to death at much personal risk, for the Toda buffaloes are strong and fierce, even attacking strangers on their walks, if they incautiously approach too near them. The British government put a stop to this cruel practice of wholesale slaughter ; and at the present day no more than one

or two animals are sacrificed at this annual ceremony. The whole herd was sacrificed in the superstitious belief that they were thus secured to the deceased in the next world.

A similar custom prevailed amongst the ancient Scythians, and, indeed, is adopted by all savage nations,—the sacrifice of a favourite horse, slave, or wife, in the hope that its services would thus be secured in the next world. The Todas believe that, unless this be done, the departed soul will have no peace, and will for ever haunt the place it lived in on earth.*

At these annual holocausts, the best and most valuable of the herd ought to be sacrificed; but the Todas, growing wise in their generation, select some of the old, barren, and useless animals for this purpose.

The fated animals are dragged by the horns into a ring or pit, which is surrounded on all sides by an embankment, and from thirty to forty yards in diameter; and when all the animals are secure within, the dancing is again commenced, and continued for some time. This terminates the ceremony of the first day.

On the second day, the scene changes to the enclosure where the doomed animals are penned up. While a party is howling and dancing outside the enclosure, another party enters it, and with their club-like staves irritate and torment the animals, who rush about infuriated, confused, and wild, in all directions, sometimes goring their tormentors, and causing accidents of a serious nature. As the animals are running about, two or three of the men adroitly seize them by the horns, spring on to their heads, and cling there. The beasts becoming more excited and infuriated, rush madly around the arena, while the confusion, noise, and excitement of the dancers outside reach their climax. The dance is somewhat different from that of the preceding day. The men arrange themselves in a circle around a long pole,—ornamented at the top, middle, and lower end with cowrie-shells, and held in its place by two men,—and around this pole the dancing goes on for some time, and is followed, as on the previous day, by a repast. After the meal, the ashes of the deceased are mixed with water brought from

* An analogous custom obtains at the present day in China, and, for aught we know, might have existed from time immemorial. When a person dies, be he wealthy or otherwise, his household goods, comprising it may be the most gorgeous silk apparel, trinkets, and ornaments of great value, are placed with the corpse in the coffin, and thus interred, so that the cemeteries and sepulchres form literally mines of untold treasure. It is a fact, that not an insignificant part of the valuable booty captured by the French and English in the late expedition (1861) to North China, was obtained by desecrating the mausolei and burial places of the country.

the nearest stream, and sprinkled on the stakes which guard the entrance of the enclosure. The ground in front of the enclosure is broken up, and a new cloth or mantle is spread over it. The mourning kinsfolk and friends approach the spot with their heads and faces concealed under their mantles, pick up handfuls of the loosened earth, which they throw into the enclosure three times, and the same number of times on the cloth, all the while exhibiting demonstrative grief and sorrow. After this, two or three men rush into the enclosure, and drag out, one by one, the fated buffaloes to the front of the newly erected hut. Here they are brought forward separately, securely held by three or four strong men, and struck a powerful blow on the head with a small axe by a kinsman of the deceased, the blow generally proving instantaneously fatal. Sometimes the mantle containing the relics of the deceased is brought to the scene of slaughter, and sprinkled with the blood of the animal first killed, and a requiem sung over it. The carcasses of the animals are dragged to the enclosure of the pit, and their heads laid upon the cloth spread in front of it. The men prostrate themselves on these dead bodies, cry over them, and, in a piteous and rather affectionate manner, fondle, caress, and kiss the face of the animals, in which they are joined by the women, who set up a howling lament, and add to the impressiveness of the scene. The Kotars and Kurumbas come in for the carcasses.

The ceremony of the third and last day consists in simply setting fire to the hut. This is done by the women. The hut, with the slaughtered buffaloes, the Todas firmly believe, are thus safely transferred to the spirit of the deceased in the next world.

The display and expense at these annual ceremonies vary with the means of the families by whom they are commemorated.

Deities, or objects of worship.—The Todas have several deities. The principal one is called *Hiriadeva*, or “bell-god”, and is hung around the neck of the best buffalo in their herds, which is an object of worship, and considered sacred. To this deity they offer prayers and libations of milk. Another of their deities is the “hunting god”, to whom they pray for success in their hunting expeditions. The sun is also adored and worshipped as a deity. The Todas believe in the doctrine of transmigration of souls, which is termed by them *Huma Norr*; but they do not appear to have any explicit ideas on the subject. They are a very superstitious people, and have faith in omens and prognostications; and as they give credence to the influence of witchcraft, they are easily imposed upon by the Kurumbas and Irulas, who pretend to practise it.

Sacred persons and places.—They have also what are called *tirriari*, or sacred groves, which are inhabited by a class of monks, who are called *palals*, or “milkmen”, to each of whom is attached a *kavilal*, or “watchman”. The *kavilal* performs all the menial offices for the *palal*; and tends the herd of sacred animals attached to each sacred grove or *mund*, which is kept exclusively for the use of these sanctified individuals. The buffalo with the bell, or the chief of the sacred herd, is not milked, its calves being permitted to consume entirely the milk of their dam. Some of these sacred groves have been deserted, and at present there are only three in existence on these hills.

The offices of *palal* and *kavilal* are voluntarily assumed either by married men or bachelors. The choice having been made, and the consent of the neighbours and friends obtained, the candidate throws off his garment as a token of his having entirely renounced the pleasures and enjoyments of the world. He then resorts to a retired and unfrequented part of some forest, and there undergoes the necessary austerities to fit him for his sacred office. A tree, called in their language *Tiarr*, is searched for in the forest, and, when found, the novitiate besmears himself with the juice of the bark, and bathes himself afterwards in a neighbouring stream. This he does several times during the week that he remains in the forest. All this time, he is in a perfect state of nudity, and a scanty supply of parched grain forms his only sustenance. After the expiration of the week, his friends visit and present him with a piece of coarse cloth, which he fastens around his waist, and quits the forest, conducted by the assembled *Todas* of the district to the *tirriari*, and enters on the office of *palal*. After assuming this office, the individuals not only lead a life of sinless retirement, but adopt habits of remarkable simplicity. They are never seen with more than a simple strip of coarse cloth around their waist, and they subsist exclusively on milk yielded by the sacred herd. They do not often leave their retired abodes, where their whole time is spent in unceasing meditation and prayer. Females are not allowed at any time to enter, or even to approach these sacred *munds*; nor can any member of the tribe hold conversation with the holy monk, or his assistant, without special permission being first obtained, and even then the conversation must be carried on from a distance. If any of the tribe chance to meet a *palal* on his way to a village, which, on occasions few and far between, he does visit, the most servile respect is shown to him. The individual who meets him at once prostrates himself or herself, before his sacred presence. All the tribes, even the *Badagas*, respect and fear him. He is

generally avoided, as he is held in superstitious dread; but if the palal condescends to speak to any of the tribe, the person addressed approaches him with awful reverence, bowing and making obeisance with the outspread hand raised to the brow, and anything the palal may ask for is at once given up to him. Altogether, there is no individual who exercises a greater power and control over the minds of these tribes than the palal.

But of late years, the light of civilisation is gradually penetrating and shedding its benign ray on these dark abodes, and its enlightening influence is stealing in perceptible degrees not only over the mind of the self-deceived palal himself, unveiling to his own obscured vision the utter folly and inutility of all his self-imposed and austere practices; but it is no less operating also on the minds of the deluded tribes, whom he has hitherto held spell-bound; for they do not so blindly believe that this personage either possesses the spirit of God, or any supernatural power of revealing the divine will, which in remote years was believed implicitly by them.

These Toda monks never accumulate any property for themselves or for their family. Any funds that they may receive are laid out in the purchase of other buffaloes for the tirriari.

In each tirriari, or grove, are two huts,—one for the palal, the other for the kavilal; an enclosure, or *tuel*, for the sacred herd of buffaloes: a separate hut for the calves; and a small conical thatched building, intended for a temple, in which one or more bells are placed.

The ceremony for the initiation of the kavilal is somewhat similar to that described for the palal; but is less rigorous, and lasts for a shorter time. He lives in a separate hut, and does not associate in any way with the palal.

Both the palal and kavilal may resign their offices by giving a month's notice; but should they wish to resume them again, they cannot do so except by undergoing a second time the necessary ceremony.

Donations and offerings of different value and kind are not unfrequently made to these sacred groves by not only the Toda, but by all the other tribes. These gifts comprise milch buffaloes or heifers, which are added to the sacred herd, and cloths similar to those worn by the palal.

Besides the palal, there is another kind of religious functionary, who is called the *poajarg*, or "village priest". To undertake this office, it is necessary that the candidate should isolate himself from his family and friends, and resort to some jungle, where he must remain for two days and nights, stripped to the skin, and exposed to all the severities of the climate. To enable him to bear these, the bark-juice of the tiarr-tree is

smeared all over his body, which subserves the double purpose of protecting his frame from the cold as well as purifying it. On the third day, after bathing, he is permitted to shelter himself in a hut, where he remains for thirty days, which completes the qualifications necessary to constitute him *Varshaly*. During this time, he is attended by a menial, who is selected from his own tribe, called a *Tarvaly*, and who resides in a separate hut.

The duty of the varshaly is to conduct all the dairy operations of the village. He is not permitted to touch the milk, but may have as much ghee as he may require. The engagement for this office is usually limited, and may terminate on the person employed giving a month's notice. Sometimes there is a kind of deputy attached to the person of the varshaly, who is called *Kurpally*. All these offices are remunerative, the incumbents receiving gifts of one or more buffaloes.

The dairy operations of a village are regarded by these tribes as the most sacred of all work, and are performed only at stated times. The milk is usually drawn before sunrise, and again after sunset; and, when concluded, the process of converting the curds into butter, and this again into ghee, is proceeded with. The ghee is not only eaten, but is also used for burning in their lamps, and as an unctuous application to their head and other parts of the body.

Religion.—Considered as a whole, the Toda religion forms a confused compound of overwhelming superstition and ignorance, with paganism as its fundamental constituent. The Todas are not practical idolaters, nor have they any definite notions of their symbolical objects or places of worship. Their dairy buffaloes and bell are fused into an incomprehensible mystic whole, or unity, and constitute their prime object of adoration and worship.

Villages and Hamlets.—A *mund* or *mott* is the term used to designate a hamlet or village by the Toda tribe. Each mund, or hamlet, usually comprises about five buildings or huts, three of which are used as dwellings; one as a dairy, and the other for sheltering the calves at night. These huts or dwellings form a peculiar kind of oval, pent-shaped construction, usually 10 feet high, 18 feet long, and 9 feet broad. The entrance, or doorway, into this building measures 32 inches in height, and 18 in width, and is not provided with any door or gate; but the entrance is closed by means of a solid slab or plank of wood from 4 to 6 inches thick, and of sufficient dimensions to entirely block up the entrance. This sliding door is inside the hut, and so arranged and fixed on two stout stakes, buried in the earth, and standing to the height of $2\frac{1}{2}$ to 3 feet, as to be easily moved to and fro. There are no other

openings or outlets of any kind, either for the escape of smoke or for the free ingress and egress of atmospheric air. The doorway itself is of such small dimensions that, to effect entrance, one has to go down on all fours, and even then much wriggling is necessary before an entrance can be effected. The houses are neat in appearance, and are built of bamboo closely laid together, fastened with rattan, and covered with thatch, which renders them water tight. Each building has an end walling before and behind, composed of solid blocks of wood, and the sides are covered in by the pent roofing, which slopes down to the ground. The front wall, or planking, contains the entrance or doorway. The inside of a hut is from eight to fifteen feet square, and is sufficiently high in the middle to admit of a tall man moving about with comfort. On one side there is a raised platform, or *pial*, formed of clay, about two feet high, and covered with *sambre* or buffalo skins, or sometimes with a mat. This platform is used as a sleeping place. On the opposite side is a fireplace, and a slight elevation on which the cooking utensils are placed. In this part of the building, faggots of firewood are seen piled up from floor to roof, and secured in their place by loops of rattan. Here also the rice-pounder, or pestle, is fixed. The mortar is formed by a hole dug in the ground seven to nine inches deep, and rendered hard by constant use. The other household goods consist of three or four brass dishes or plates, several bamboo measures, and sometimes a latchet. In one hut I found an old table-knife, two empty beer-bottles, and a broken goblet.

Each hut or dwelling is surrounded by an enclosure or wall, formed of loose stones piled up two to three feet high, and includes a space or yard measuring thirteen feet by ten feet.

Dairy or Temple.—The dairy, which is also the temple of the *mund*, is sometimes a building slightly larger than the others, and usually contains two compartments, separated by a centre planking. One part of the dairy is a sort of storehouse for ghee, milk, and curds, contained in separate vessels. The outer apartment forms the dwelling-place of the *poojary*, or dairyman, who is sometimes called the *varshaly*. The doorways of the dairy are of smaller dimensions than those in the dwelling-huts, being twenty-four by eighteen inches. The dairy, or temple, is usually situated at some small distance from the habitations, and strangers never attempt to approach too near it, for fear of incurring the ill-will of the deity who is believed to preside within. This belief is general among all the tribes. Females are excluded; and the only parties who are free to come and go are the boys of the family. The flooring of the dairy is level, and at one end there is a fireplace.

Two or three milkpails, or pots, are all that it usually contains.

The huts where the calves are kept is a simple building, somewhat like the dwelling huts.

These munds are usually situate in well-selected romantic looking spots, where woodland, streamlet, and lawn combine to render the landscape picturesque and attractive. There are at the present day one hundred and six Toda munds, or hamlets, in existence on the Neilgherries.

Cattle and Cattle Pens.—In the vicinity of the munds are the cattle-pens, or *tuel*, which are circular enclosures, surrounded by a loose stone wall with a single entrance, guarded by powerful wooden stakes. In these the herds of buffaloes are kept at night. Each mund possesses a herd of these animals. The milk obtained from them is converted into ghee, part of which is reserved for domestic purposes, while the remainder is bartered to the low country tribes for other articles.

The hill buffalo differs from the kind met with on the plains, and appears to be a peculiar species, indigenous to these hills alone. They are exceedingly powerful in build, and long in carcass. They have scarcely any hump; the chest is broad and deep; the legs short and sturdy; the head large and heavy, and surmounted by horns set wide apart, and curved differently to those of the animals seen on the plains, the points being recurved inwards, outwards, and forwards. The whole of the herds presented this feature. They carry their heads low, and from this peculiar curvature of the horns, it gives them at first sight a bull-dog appearance. Along the crest of the neck, hump, and back, there is a thick growth of hair like a mane, which imparts a bison-like appearance to these animals. They are known to be fierce, and rather dangerous animals to approach incautiously. At sight of a stranger they throw up their heads and run back for some distance, when they abruptly halt and turn towards the object of their fears, at whom they fiercely stare with heads erect; then cautiously advance and retire, and gather together in a compact serried mass prepared for attack. At other times, the whole herd start suddenly into an impetuous rush, with their heads carried low, and overrun, gore, or trample to death the object that has excited their anger.

In this manner tigers, and other beasts of prey, are often kept at bay, or killed by the simultaneous rush of the animals.

The system of inbreeding accounts for the remarkable similarity of appearance about the horns, so characteristic of these animals.

They are good milkers, yielding daily from five to nine

quarts of very rich well-flavoured milk. Beyond this, they are turned to no use whatever.

Of late years, the Toda buffaloes have become subject to murrain and other diseases, and, what with the number that is annually sacrificed, these fine animals are fast diminishing. It is to be hoped that they will not become extinct.

The cows are milked both at night and in the morning; but the principal dairy operation is conducted before sunrise.

The best animal is selected to carry the *Hiradeva*, or the Toda's bell-god. This office is made hereditary, and descends in uninterrupted succession from cow to calf.

The *tuel*, or pen, is a circular enclosure, varying in size according to the number comprising the herd. It is generally located in some sheltered spot, and embanked to the height of three or four feet. During the rains, the windward side of the pen is bushed with brushwood to protect the herd from the cold and piercing winds.

These pens having no covering above, the cattle are exposed at all seasons to the rains and sun, while the floor is covered with the accumulation of their own droppings. The young calves, however, prior to being weaned, are very carefully looked after, and kept under shelter at all times of the year. During the day the calves either accompany their dams, or are grazed separately, under the care of an attendant.

Towards evening, the herd is driven back to the *tuel*, when such of the male and female members of the family as are present assemble and make obeisance to the animals, by bowing and raising the open right hand to the brow, resting the thumb on the ridge of the nose, after which the animals are shut in for the night.*

The Todas keep no other animals, except, perhaps, a cat or two, for the purpose of destroying the rats and other vermin that infest the villages in great numbers.

Nature of Diseases and Ailments.—These hill tribes are subject to a variety of diseases; but they manifest the greatest susceptibility to attacks of fever, rheumatism, and smallpox.

Since the introduction of vaccination, the objects and benefits of which they now understand and appreciate, the latter disease has not been so prevalent.

The fever from which they suffer is generally of a malarious type, either of the intermittent, remittent, or typhoid varieties.

* The Todas hold grazing lands on favourable terms from the Government; but, at the same time, they receive a certain sum from Government for the lands now comprising the station of Ootacamund, which originally belonged to them. This has been received by them from Mr. Sullivan's time.

Of late years, the venereal disease is also met with. One case that I examined, which the patient confessed having contracted from his own tribe, presented gonorrhœa, chancre, and buboes. Ophthalmia and cataract are commonly seen, and perhaps caused in a great measure by their smoky, ill-ventilated habitations. When an outbreak of smallpox or other epidemic occurs in any of their hamlets, the inhabitants who escape from its ravages remove to another mund or village, of which each clan keeps several, leaving the sick to be attended to by a few persons who have once had the disease.

They do not appear to have any knowledge of medical drugs or of the treatment of disease, nor are they often known to seek the aid or advice of their European neighbours; but when assistance is offered to them gratuitously, they receive and appear to appreciate it.

Alleged scarcity of Offspring.—It is a common belief that the women of the Toda tribe are not prolific, and this has been supposed to be connected with their polyandrous marriage system in relation of cause and effect. But this I am inclined to doubt, as, from personal inquiry, I am satisfied that the females individually bear as many as from four to twelve children. It is true that a large number of children is rarely seen in the same family; but this, in my opinion, is owing to the climate of the hills being inimical to infantile life. In infancy, the mortality is known to be very great, not only among the natives, but also among the Europeans; and if there be a slight difference in favour of the latter, it is easily and satisfactorily accounted for when we contrast the superior advantages possessed by Europeans, on the score of physical stamina, hygiene, regimen, habits, and mode of life, with the wretched condition of the natives, who are poor, ill-fed, badly clothed, and living in hamlets defective in sanitation, together with early marriages and child-bearing, prolonged lactation, and excess of venery resulting from their system of polyandry. Abortions and premature births are of frequent occurrence, and are attributable to the same causes.

Both the men and women of the Toda tribe exhibit strong parental feeling and attachment to their offspring, whom, in tender age as well as in sickness, they carefully tend and cherish.

Legends.—I was unable myself to trace the existence of any legendary stories or traditions among these tribes, whereby some clue might be obtained as to their past history and true origin.

The Rev. Mr. Metz, in his *Tribes Inhabiting the Neilgherries*, relates a long story concerning two brothers of the Toda tribe,

who, it is said, fell out, and parted on their way down to the low country. The story goes on to say that one of the brothers met some fairy birds, who reproached him for having quarrelled with his brother, when, being seized with remorse and conscience-stricken, he prayed to the ruling deity for the restoration of his brother, which was granted. Some time afterwards the same brother, feeling weary of his life, miraculously disappeared through the agency of the fairies, leaving his brother to perform his funeral rites, and who, on its completion, undertook a pilgrimage to the mountain-tops, and “has never since been heard of.” Mr. Metz adds, that he was probably carried off by wild beasts. This fiction, however, as a legend of the past, possesses but little interest, as it throws no light whatever on the bygone times of these singular tribes, who are so enveloped in doubt and mystery as to leave their true origin and past history debatable questions to the present day.

TODA NAMES FOR HILLS.

Cairn Hill.	Kell Cod.
Fern Hill.	Poonthut.
Rhode Hill.	Nurrigal vem.
Mount Rose.	Oothut.
Makoortee Hills.	Caave and Carreen.
Name for Cairns—	Phins.

The following list will give an idea of the population of the munds generally :—

	Huts.	Men.	Women.	Children.
Kandal mund ...	4	10	4	9
Mungearlu „ ...	3	4	3	6
Koodthoo „ ...	2	9	7	7
Minkeshole „ ...	2	3	3	4

The collector gives the Toda munds as 106 huts, and a population of 704. In Captain Ouchterlony's memoir, they are given as 85 and 337, respectively, in 1847; from which it will be seen that, during the last twenty years, there has been an increase of 21 munds and 337 inhabitants.

PART II.—REMARKS.

Ever since the first discovery of the Neilgherries, and throughout the half century nearly that they have now been occupied by Europeans, considerable curiosity and interest have been manifested towards the singular native tribes who pre-existed on these hill-ranges from a very remote period, the starting-point of which, however, has never been definitely traced, and remains still an unravelled mystery. Not a few

theories and conjectures have been advanced from time to time by writers interested in the subject. Some of these have not been wanting in ingenuity, nor deficient in facts, both new and interesting, relative to the social habits and customs, religion, and language of these tribes; yet the exact date and mode of their settlement on the hills cannot be considered to have been set finally at rest by any of the evidentiary facts which have hitherto been brought forward.

Nor is it in the least degree surprising that the inquiry should be beset with so much difficulty, considering that, up to this time, but few traditional records or vestiges, in the shape of monuments and coins, have been found to exist among them, by which additional light might be thrown on the subject; for the discovery of such, in researches of this nature, always affords valuable aid in clearing up dubious points in the past history of all human races, and which, were it not for their existence, might ever remain as unsolved problems.

Some writers affirm that the Neilgherries have been peopled from time immemorial, the Todawar tribe being regarded as a remnant of the aboriginal race. This idea appears to have had its origin from the fact of this tribe itself claiming sovereignty of the soil, and their right to it being admitted by all the other tribes. Others, led away by the discovery of a few *cromlechs* and *cairns*, the alleged superior physical development, peculiar habits and customs, and attractive costume of the Todawar tribe, claim for them an ancestral origin which entirely disconnects them from any of the Dravidian races of Southern India, and pretend to trace their progenitors in the ancient Scythians, who, it is said, emigrated from some part of Central Asia, and settled on these hills at some very remote period. But, as identical stonecut antiquities have been opened up in numerous other parts of the plains of India, and the hill-tribes themselves disclaim all connexion with these relics, the fact of their simple discovery on the hills does not, in my humble opinion, warrant such a far-fetched idea.*

The notion, also, that the Todawar tribe present any special peculiarities in their habits and customs, language, and religion, costume, or ethnological features, is, I apprehend, when carefully analysed, and compared with those of the other Indian races, more imaginary than real.

The Rev. Mr. Metz asserts his belief that these hill-tribes originally came from some place in the north-east, and endeavours to trace an affinity between them and a race of people

* For these cairns are met with in all parts of Southern India, both on the hill-plateau and plains.

inhabiting the mountainous district of Collegal,* in the Coimbatore district, who, he makes out, emigrated thither at the same time that the hill-tribes settled themselves on the Neilgherries. Captain Harkness, in his *Description of a singular Aboriginal Race inhabiting the summit of the Neilgherries*, narrates the following traditionary account, which I here insert in his own words:—

“They have some tradition bearing reference to a period about the time of Ravan, when they say they inhabited the low country. One among these is that their forefathers were the subjects of Ravan; and that, being afterwards unable to bear the severities imposed upon them by the successful Ravan, they fled to these mountains as a place of refuge, driving their herds before them, carrying their females and children on their shoulders, and vowing to wear no covering on their heads till they had wreaked their vengeance on their oppressors. But I doubt the genuineness of all these stories, and imagine they have gathered them from some of their Hindoo neighbours.”†

This local tradition, imperfect as it is, and notwithstanding its being somewhat arbitrarily repudiated by the narrator himself, contains, in my humble impression, the only reliable clue to the true origin and past history of the Neilgherry tribes, forming in this respect a solitary exception, on the score of veritableness, in the mass of evidence heretofore advanced; and this opinion I submit after a careful and strict analysis and comparison of every point of alleged dissimilarity in ethnology, language, religion, social habits, and customs, whereon have been based, apparently, the several hypotheses which pretend to establish, in whole or in part, an origin for the hill-tribes isolated and distinct from that of the Hindoos of the plains. Having investigated for myself, and taken considerable interest and pains in the subject of ethnology, as it concerns the various aboriginal races found scattered in the mountainous regions of Southern India, such as the Shervaroy Hills, hill tracts of Orissa and Carnatic, where I had frequent opportunities of observing the peculiarities of several of these tribes, I am enabled to make an extended comparison between them and the tribes upon whose origin I venture now to make a few comments in the present paper.

* “They must, perhaps, have for centuries inhabited a range lying to the north-east, in the direction of Hassanoor beyond the Gazelhutty Pass. Part of the tribe appears to have settled in a northerly direction, near Collegal, for I am frequently pressed to go to visit them, and bring back intelligence respecting their condition in life.”—*Tribes Inhabiting Neilgherries*, etc., p. 14.

† *A Description of a singular Aboriginal Race inhabiting the summit of the Neilgherry Hills*, by Captain H. Harkness, pp. 24 and 25.

The hill tribes, I affirm, are obviously allied by many affinities of language and common characteristics of religion and customs with the Dravidian races of the South of India, with whom, I believe, they have had a common origin, and are neither Scythians nor Romans, nor indigenous aborigines of the hills they now occupy. They are like the other half-savage races met with on all the low ranges of hills in Southern India,—the remnants of a population who once occupied the plains of India, overrun by successive invasions of superior races, before whom they were driven forward for shelter to their present respective mountainous habitats, and where, as regards the Neilgherry tribes in particular, under the influence of altered physical conditions and a cold and bracing climate, they acquired a hardihood of constitution and improved physique, at the same time that their customs, language, and religion retained their primitive rude and uncultivated characteristics as a necessary result of their long-continued sequestration on these mountainous retreats.

This opinion appears to be borne out by the testimony of ancient native historians as well, who divided Southern India into two great provinces, which they respectively termed *Chola Mundalum* and *Toda Mundalum*. The extent of the former was included between the two rivers Cauvery and Palar, while the latter embraced all the territory that lay to the north of the Palar to the Ponnary. The latter, it is said, was occupied by a barbarous race of people, who did not even understand how to cultivate the soil, and were solely a pastoral race, possessing large herds of cattle, with which they itinerated from jungle to forest in search of pasture, and subsisted entirely on the produce of their herds. The Chola Mundalum province, on the other hand, was inhabited by a superior race, who boasted of a regular dynasty of kings, the son of one of whom, *Adondai*, invaded the Toda Mundalum* country, and rapidly brought the barbarous hordes who occupied it under his subjugation and rule. It is possible, if not very probable, that the Neilgherry Todawars are a remnant of this ancient population. At any rate, the description of the Toda Mundalum race and their mode of life, find a verisimilitude in that of the Todawars of the present day.

I will now proceed to make a few summary observations on the several alleged distinctive features, real or fallacious, which

* *Tonda Mundalum*: "*Tondai*, or with the addition of *Mundalum*, 'a province', 'a country', of which Canjipuram (Conjeveram) was the ancient capital, takes its designation from a shrub of the same name with which it abounds."—Ellis's *Mirasi Rights*, p. 51.

have led some authors to ascribe an origin and past history to these Neilgherry tribes, that appear to militate against the idea of their being descended from a common parent stock with the Dravidian races of the plains.

First, as to physical appearance, the only tribe on the Neilgherries which can be said, as a body, to show a better appearance and physique than the races on the plains are the Todawars; but this comparative superiority on the part of this tribe does not hold true as regards every race met with on the plains, for I have seen many of the latter equally well developed in bone and muscle, and not less good-looking in features than the Todas; for instance, the *Marawars* and *Angumbaliers* of the south, and the *Telugus* of the north.* Among the latter, some excellent specimens of the true Caucasian type of features are to be met with. But, judging by actual measurements and weight, this alleged superiority, I opine, vanishes altogether, or exists only in a very slight degree, which, considering the advantages on the score of climate and diet enjoyed by the Todawars, is not at all surprising.

The superiority of the Todas at present consists in age, size of chest, arms, and weight only; but when we take into account the difference of from one to thirteen years existing between the average age of the Todas and that of the other tribes, we must allow that, with age, the weight and proportions of different parts of the body will increase also, which consideration confirms the observation, that the superiority of the Todas is more apparent than real in their physical conformation; and this will appear more clearly when measurements of men of *equal* age are taken, for it must be admitted that such increase will take place in most, if not all, of the tribes enumerated here.

This superiority of the Todas, I imagine, is in truth more a deceptive impression, produced by the combined effect of their graceful costume, self-possessed deportment, unturbaned heads, and peculiar mode of wearing the hair—when contrasted with the inelegant attire, distasteful head-dress, and style of hair-dressing, of the native of the plains,—which have so much pleased the European eye, and thus originated the idea of the Todawar's physical superiority. This opinion may be easily demon-

* Dr. Nash, in a *Report* to the Inspector-General, Indian Medical Department, gives the following description of the Coorgs :—"The Coorgs and the Amma Coorgs are of the same tribe. Head, decidedly Caucasian; regular features; frequently an aquiline nose and well chiselled lips; eyes and hair dark; wear whiskers and moustaches, but chin shaved; complexion, fair; countenance, intelligent; and general deportment bold and independent."

strated by divesting a Toda of his classically elegant toga, and making him wear in lieu the *cummerbund* and *turban* in the unseemly style of the low country native,—or, in the case of the female, by concealing her flowing curls of hair,—and then it will readily be seen that the Todawar, male or female, is not a whit better looking, after all, than the less gracefully attired native of the plains.*

Their easy deportment before strangers, great self-possession, and utter fearlessness,—features which have been noticed as equally common to the female as the male Toda,—have been brought forward with some stress in proof of their being descended from a different origin to that of the natives of the plains; but the natives of this tribe did not appear to me to possess these qualities in a more striking degree than what might be expected to exist naturally in a race of people who were once acknowledged liege lords of the soil they now occupy, and who have been living, for some ages, in a hardy mountain clime, and leading an independent pastoral life. I cannot avoid giving expression to the suspicion, moreover, that these same qualities have been enhanced greatly by the kind, and almost favouring, treatment this tribe has ever received at the hands of Europeans, everyone of whom, on their first arrival at Ootacamund, never fail to visit their munds in the vicinity, and distribute donations among their interesting inhabitants.

In costume again, the Todawar tribe is the only one presenting a peculiarity. They differ in this respect from the natives of the plains, in so far that the head-dress or the turban of the latter is eschewed. Like them, however, the Todawars wear the *lungooty*, or small waist-cloth; and instead of the larger folds of drapery worn round the pelvis by the natives of the plains, this tribe have adopted the toga, or mantle, which, from its stout texture and the manner in which it is made to envelop or cloak the entire body, is evidently a modification of attire necessitated by the colder and severer climate in which they reside. The turban is not universally eschewed amongst this tribe, as is believed; for I have met with some who do wear it, apparently the more well-to-do Todawars. The great scarcity of cotton fabrics on the hills, perhaps, first led them to abandon this head-dress, the temperate nature of the climate permitting them to do so with perfect impunity. The Khonds and Baboos of Bengal, the Nairs of Malabar, and

* "The superiority of the Toda, in form and features, to the inhabitants of the low lands, may also be partially owing to the improvement in bodily strength, stature, and general appearance, that would be effected by a lengthened sojourn in the pure climate of the Blue Mountains."—*Goa, and the Blue Mountains*, by Rich. F. Burton, Lieut. Bombay Army, 1851, p. 345.

other abject tribes on the western coast, go about bareheaded, like the Todas.

As regards language, the hill tribes cannot be said to possess a distinct language of their own; for that which is spoken by them is a mixed dialect of Tamil, Canarese, and Telugu, corrupted and modified somewhat by their sequestered life and want of more frequent associations with the other Dravidian races, amongst whom these tongues are preserved in their pristine purity and pronunciation.*

The same long-continued seclusion of the hill tribes also accounts for the few slight differences that are found to exist in their *social habits and customs* when compared with those of the races on the plains. Like the Hindoos, each of these hill tribes is subdivided into several intersections, who, like the caste sections of the former, do not intermarry with each other, and observe slight differences in their ceremonial and religious performances, at the same time that the institution of caste in its true Brahminical forms is not recognised amongst them. But no more did caste belong to the Hindoos originally: its origin is of a recent date, probably about the period when the priestly order came first into existence and the Brahmins became the dominant race, who, to render the line of demarcation between themselves and the conquered races an effectual barrier to any intercrossing connections being formed, established these elaborate artifices, so that the absence of caste in the hill tribes does not negative the theory of their having had a common origin with the Hindoos. It cannot be denied, however, that the Hill tribes, in a few of their habits and ceremonial customs, contrast somewhat with the Hindoo races on the score chiefly of simplicity and primitive character—for instance, in their marriage celebrations; but this dissimilarity does not exist in a greater degree than what might be expected, considering that, while the one has remained in almost its

* "There is no doubt of the Toda belonging to the Dravidian stock of languages, agreeing more with Tamil than any of the others, being simply a corruption of the Tamil language as spoken by the lower classes—40 per cent. belonging to the Dravidian, and 67 per cent. being the result of corruptions so completely transformed that their connexions cannot now be traced. The pronouns, numerals, first and second person of its verbal inflexions, prove this, beyond doubt, being most allied to Tamil."—*Vide Caldwell's Comparative Grammar.*

"It has been proved, by the Rev. — Schmidt's *Vocabulary of the Toda Tongue*, that the Toda language is an obsolete dialect of the Tamil, containing many vocables directly derived from Sanscrit, but corrupted into words so debased and hard, no stone is hard enough to touch them on."—*Goa and the Blue Mountains*, by Richard F. Burton, Lieut. Bombay Army, 1851; *vide* p. 343.

original state of rude barbarism and rural innocence, the other came long ago under the metamorphosing influence of civilisation.

In regard to *Polyandry*, which is in existence to this very day amongst the Todawar tribe, it is a system which has long prevailed in many parts of India under various phases, not only in several parts of Southern India, but in Thibet, the Himalayas, Coorg, Ceylon, Travancore, and Malabar, and Canara, variously modified ;* for instance, among the *Marawars* of the South, a man may marry one or several sisters together, and, although it is not the rule, it is made a matter of convenience. Polygamy in a great variety of cases is common enough among the higher and more civilised classes of the Hindoo races. The marriage tie is also equally lax in principle, and is often disregarded and broken among them as in the Hill tribes ; but the practice of allotting one wife to all the brothers of a family forms more a rule among the Todawar tribe than others. From the Scriptures, we learn that the Jews were directed† to raise seed for a defunct brother by cohabiting with his widow, to descend successively to the several brothers of the family.‡ Persians marry with their mothers, sisters, and daughters.§

Polyandry received a partial sanction in the Institutes of Menu, as the following extract, translated from the Mahabarat, will testify :—

How *Droupudi* became the wife of the brothers *Pandu*.—“The Pandavas were residing at *Ekacha kranagaram* (Oude) in disguise as beggars with their mother ‘*Kuntidevi*.’ Rajah ‘*Drubada*’ made a vow that he would give his daughter *Droupudi* in marriage to the best archer, and with that view opened a ‘*Sivayam Varam*’ (competitive examination) to all candidates at *Panchala* (Punjab), the seat of his government. A machine was set up called *Jala Enthram*, which consisted of a wooden wheel placed at the top, and which wheel was provided with a box on its axle, through which the archer had to take aim, and shoot his arrow when the wheel was in a rotatory motion, marking the shadow of a fish in a tub of water below,

* *Vide* Balfour’s second Supplement to the *Cyclopædia*, article “Polyandry,” pp. 106-111. Nayumars or Nayuer women enjoy a plurality of husbands in Malabar. *Vide* Abbé Dubois’ *Description of the Character, Manners, and Customs of the People of India*.

† Deuteronomy xxv, 5.

‡ I find that the Brahmins, Ketheres, Curnums, and Paiks of Jeypore, Vizagapatam district, do not allow their widows to re-marry, but they are taken in concubinage by the younger brothers.

§ Origen asks Celsus, in an ironical way, if Persians are not a godlike race !

without looking at the substantive object above. Among others, the Pandavas, disguised, went to the *Sivayom Varas*, and *Arjunen*, one of the five brothers, won the day by effectually discharging the arrow at the wooden fish placed at the top of the revolving wheel above described. Drubada (the Rajah) then gave his daughter in marriage to Arjunen, and celebrated the ceremony with great solemnity. The bride was brought home by the Pandavas; and, on arrival, they told their mother Kuntidevi, before showing her the bride, that they had brought a rare object, and wished her orders. In reply, the mother said, 'share it equally among you five brothers.' They then showed Dropudi, when the mother said, 'it is left to you to act up or not to your promise.' They then agreed, between themselves to observe the directions of their mother, and from that time Dropudi was considered the common wife of all five brothers.

"Some time after, *Narada Mahamunee* (great saint) came to the Pandavas, and in the course of conversation recited various anecdotes wherein disputes had arisen in consequence of one female being placed common to several persons, and advised that the five brothers should reside with Dropudi by turns, whereupon it was resolved that Dropudi should reside as the exclusive bride for one year with each brother, so that each had his turn as husband in five years. It was likewise determined upon that, in the event of any one of the brothers, other than he who was considered the lawful husband for the year, entering the room when they (the husband and Dropudi) were together, the trespasser was to go on a pilgrimage to bathe in sacred rivers for one whole year to purge away the sin. Such a fate befel Arjunen during *Durmarajah's* turn."

Polyandry* also existed from time immemorial in the Cashmere valley, in Thibet, and in the Sevalik mountains. It is also said to exist in Sylhet and Cachar. In the present day the women of Thibet have three or four husbands, and are as jealous of them, it is said, as a Turk polygamist. Major Cunningham remarks that, among the Botis of Ladak, polyandry is strictly confined to brothers; each family of brothers, like the Todas, having only one wife common to them, and the number of husbands varying from two to four.† Among the

* V. H. Levinge, Esq., late Collector of Madura, told me, some time ago, that polyandry existed in the Cumbum valley of that district, and I find that such is the case; but what once formed the rule is now the exception, nevertheless it is recognised as an institution among the Kappaliar caste people, and it does exist as such.

† "Among their social customs the—to our ideas—most revolting system of polyandry is almost universal. The brothers of a family have only one

natives of Alpine Bengal, the custom prevails of marrying one woman to a family of brothers.* The Hindoos believe that their women are visited by the gods; an instance of this also can be traced to the Panduran kings. The Pandu Rajah, the father of the five heroes, was the son of *Viasea* and *Pandea*; his wife *Kunti* was a princess of *Mathura*. *Kunti* was sterile, which was attributed to the sins of her ancestors; but she, anxious to overcome the stigma of being barren, with a charm enticed the gods to her bed and begat five sons.

The Chumars of Kumaon still practise polyandry. But, to return to the South, polyandry prevailed among various castes in Southern India, and it was not confined to the Todas alone. In these instances, the system perhaps was somewhat modified to suit circumstances; thus, the *Thotiyars* allowed the woman of a particular *Gotra* (family) to cohabit with any individual of that *Gotra*, whilst the Todas allowed only the brothers of a family to have one woman in common. The *Sudras* of *Malayalum* allowed their women to cohabit with men of their own or of a higher caste. In addition to the practice above-mentioned, the *Thotiyars* practise a different ceremony, namely, prostituting their wives during the festival of *Soo-bramuniya* in the fulfilment of certain vows. Their wives are placed in solitary huts on the roadside, and the husbands watch for travellers, and beg of the first person met with to go in and cohabit with his wife. This is carried out to the number they have stated in their vows, and until that number is completed they bring their wives again and again to the locality, until the number of strangers has been procured.

Among the *Vellalah* caste, in the Coimbatore district, it was the common practice, I believe, for the father of a family to live in incestuous intercourse with his own daughter-in-law during the period that his son, the youthful husband, was in nonage, the offspring of such intercourse being affiliated on the latter. On his arrival at the age of puberty, his wife and her children were transferred to him.†

wife amongst them, so that, as a rule, the woman has from two to four husbands." "Notes on Ladak in 1867," by Assistant-Surgeon Henry Cayley, *Indian Medical Gazette*, Nov. 1, 1867, p. 266.

* "Tottiyar.—Among this tribe brothers, uncles, nephews, and other kindred, hold their wives in common."—Abbé Dubois, *Description of the Character, Manners, and Customs of the People of India*, p. 3.

† In the Tinnevely district, a similar practice exists among the Reddies. A young woman, of sixteen or twenty years of age, is frequently married to a boy of five or six years, or even of a tenderer age. After marriage she, the wife, lives with some other man, a near relative on the maternal side, frequently an uncle, and sometimes with her boy-husband's own father. The progeny, so begotten, are affiliated on the boy-husband. When the

The system of polyandry in existence in Travancore, Malabar, and Canara, is known by the term *Marumakattayam*, or nepotism in the female line, and is alleged to have originated with Pursooramen (the first king of Malabar), who, on introducing Brahmins into the district, and to prevent the dispersion of their property, permitted only the elder brothers to marry, and their sons were to be considered as family property; and from the younger brothers being celibates, they were allowed to cohabit with females of a lower caste, and their progeny (not being Brahmins) could not inherit the possessions of their fathers. From this arose the promiscuous intercourse in the lower classes among themselves. The females, prior to maturity, passed through a form of marriage, the bridegroom not claiming the position and right of a husband: these girls on attaining maturity are permitted to consort and cohabit with as many as they please, provided that the individuals are members of their own caste, or some other superior to themselves.

The origin, therefore, of this unique social custom is not difficult to trace. The particular phase or form under which it exists among them, perhaps, has some connection with their original practice of female infanticide, which, causing a scarcity of females in the tribe, led to the adoption of this particular system of marriage as a matter of convenience. Or a reverse relation of cause and effect between these two may have existed; polyandry, perhaps, pre-existed, and, as a sequence, the female sex became one too many in number, and to keep down the needless disproportion, female infanticide arose. But, be this as it may, the existing scarcity of female offspring among the Todawar tribe cannot be attributed to infanticidal murder, which iniquitous practice has long since been abandoned, and, unless their system of promiscuous cohabitation has some occult physiological effect in determining a preponderance of male over female offspring, this disproportion, I conceive, is difficult to explain otherwise.

Looking again at their *funeral rites* and method of disposing of their dead, great analogy is found to exist. As among the Todawars, so among the Hindoos of the plains, cremation or the custom of burning the corpse is practised; so are also the customs of keeping the dead body laid out in state, fantastically dressed and ornamented for several days (in the plains the climate does not admit of the body lying in state for any

boy comes of age, he finds his wife an old woman, and perhaps past child-bearing. So he, in his turn, contracts a *liaison* with some other boy's wife, and procreates children for him.

time), and then conveying it to the cremation ground, followed by an animated procession of mourners chanting lamentations relative to the good qualities of the deceased; and the practice of throwing coloured grain at the corpse previous to burning it, as well as of collecting and preserving the ashes and other relics after the body has been burnt, is also very commonly observed.*

The annual funeral ceremony of the Todawars, again, may be regarded as the prototype of the "*Thavashum*," or funeral feast, otherwise termed "*Gothamm*" (which the Todas call *Kavidoo*), or the giving of cows to Brahmins, by the natives of the low country, characterised by the same singular combination of hilarity and grief, bloody sacrifices, and feasting on the part of the friends and relatives who assemble on the occasion, as among the Todas at their funeral ceremony, with this difference, perhaps, that the buffalo is not the only animal sacrificed; goats, sheep, and fowls also being offered up equally as often.† Whilst some tribes offer bloody sacrifices, others again simply offer rice-balls and water to the manes of the deceased, for the purpose of supplying the supposed wants of his soul.‡

In religion and devotional practices, again, the resemblance between the Hill tribes and the Hindoos of the plains is still more close and striking, consecrating every hill, dale, stream, and wood.§

Like the Hill tribes, it is well known that the Hindoos also have their "*gooroo*s," or priests, who, to fit them for their offices, have to undergo certain preparatory ceremonies, somewhat identical with those described for the *Palul* and *Poojury* of the Todawars. In the retired contemplation of recluses, the self-denying vow places these men beyond the common wants of humanity, rendering them indifferent to the vicissitudes of climate, and to the effects of cold, heat, hunger, thirst, and

* The Thotigars bury their dead. After some little time, they either get a little sand from the grave, or place a few of the bones of the deceased in a pot, and bury them at a certain place, and put up a stone. These stones, of which some fifty or sixty are sometimes seen at a place, are worshipped on certain days annually.

† Among bloody sacrifices, buffaloes stand next to human beings.

‡ To procure relief for the wandering spirit after death, they make to it offerings of rice, etc., in a religious ceremony almost universally attended to, called the *shradddu*, and on which, frequently, a rich man expends not less than 300,000 to 400,000 rupees. Vide p. 50, *A View of the History, Literature, and Religion of the Hindoos*, by the Rev. W. Ward, 5th edit., 1863.

§ Hindoo mythology consecrates every hill and dale, every fountain and river, every wood and plain.—*The Virgin Widow*, by a Christian Missionary, preface, p. 1.

nakedness.* They have also their class of monks and devotees, recognised under a variety of names according to the peculiar tenets of the sect to which they are attached.† These several sacred characters, it is also well known, delight in the same sort of retired life and in similar practices of self-abnegation, and are regarded by the masses with an almost equal degree of respect and awe as is the *Palal* among the 'Todawar tribe.‡ Then again, the Hindoos have also their sacred herds of cattle, which are attached to their places and temples of worship, the products of which are reserved exclusively for the use of the *Gooroo* and other sacred functionaries officiating in such places.§ Each sacred herd also has its *Karah-mussoo* (a cow whose udder is black, and which is held in great esteem by the Hindoos) or queen cow, which is looked upon as a sacred object by the people, and is known from the rest by a bell attached to its neck, and by its black points and other marks of beauty. The milk from this cow is so much revered, that the common people will not even touch it, much less buy or make use of it for any base purpose. These animals are generally mottled white and black, the udder being black. When an animal of this colour is calved, the natives do not keep it, but give it away to Brahmins, either when young or after it has grown up. The animal itself is also privileged and petted by all, and allowed to roam and browse wherever its fancy listeth without molestation. Every morning, before the temple doors are opened, this sacred cow is led forth by the Hindoo priest, with the bell suspended to its neck, to the front of the sacred portals, and no mortal dare peep into the *sanctum sanctorum* of the temple before this highly revered animal has first viewed the deity and interior of the temple, after which the doors are thrown wide open, and the usual matutinal services are commenced.

* Indeed, retirement from the world and abstraction of mind, assisted by bodily austerities, is considered as the direct way to final beatitude.—*A View of the History, etc.*, by the Rev. W. Ward, 5th edit., 1863, p. 52.

“But the most startling form of their religious — is found in the retired contemplation of recluses. The rigid, self-denying vow of the Yogi is intense and all excluding. It places him above the requisitions of society; it severs his connexion with a common humanity, and it renders him indifferent to cold and heat, to hunger and nakedness.”—*The Virgin Widow*, by a Christian Missionary, preface, p. vi.

† They (the Gooroos) generally reside in a kind of monasteries, or insulated hermitages, generally called *matam*, and show themselves but seldom in public. Abbé Dubois, *Description of the Character, Manners, and Customs of the People of India*, p. 54.*

‡ *Yogi* is but another name for *Pal*, *aul*.

§ The cow, as a form of *Bhuguvutie*, is an object of worship, and receives the homage of Hindoos at an annual festival.—*A View of the History, Literature, and Religion of the Hindoos*; by the Rev. W. Ward, 5th edit., 1853, p. 29.

But apart from this sacred character, the cow, of all domesticated animals,* has ever held a foremost position in the esteem and favour of the Hindoo classes. Each household or family has its favourite cow, which is looked upon almost as a member of the family, and is as much cared for and cherished as one of their own children.† The death of one of these animals produces in a Hindoo family an equal degree of sensation and grief as that of any human member of it. The milk is regarded as a sacred product, and even the very excrement and urine of the animal are invested with various astrological attributes and prophylactic virtues in the uncultivated mind of the Hindoo.‡

The class of shepherds or milkmen again, amongst the Hindoos, though by caste holding a very inferior position, is highly favoured by virtue of the functions they exercise in milking the cow. Even the sanctified gooroo, or the most sensitive Brahmin, will partake of the milk or butter which may have been ever so freely handled by the filthiest of this class.

According to Hindoo history, *Krishna*, one of their principal deified incarnations, was once a cowherd, and hence this class came in part by its highly privileged character.

Thus, it may be readily understood, how the buffalo§ with its bell|| (in the absence of a better species of kine suited to the trying climate of the Hills) came to be deified, and to play such an important part in the religion of the Neilgherry Todawars.

The kine met with on the plains is a poor stunted breed, compared with which the Hill buffalo is a noble animal.

Many of the races on the plains also adore the sun, and believe equally in the doctrine of transmigration of souls, as do the Todawars. In fine, in the religion of the Todawars, we have presented to our view a true skeleton picture of religion as it anciently existed, and before it became adulterated with idol worship, caste artifice, and other devices of priest-craft, which had no existence until the era when the Brahminical order became the ascendant class in Southern India.

* Among other animals, the buffalo is worshipped. *Vide* sect. v, under the head "other animals worshipped," p. 137, Ward's *History, etc., of the Hindoos*.

† "In worshipping the cow no image is used, but worship is performed before a jar of water." The Todas substitute milk for water.

‡ The very dung of the cow is eaten as an atonement for sin, and, with its urine, is used in worship.—*Note*, p. 29, Ward, *A View of the History, etc., of the Hindoos*, 5th edit., 1863.

§ Yama had a buffalo for his vehicle, and is the *Shraddhu devu*, or regent of funeral rites.—Ward, p. 21, *idem*.

|| The bell, represented in the hands of Guneshu, is the pattern of a temple.—Ward, *idem*.

PART III.—CAIRNS AND CROMLECHS.

This account of the Hill tribes of the Blue Mountains may not be considered complete without allusion to these ancient remains, which have been somewhat connected with one or other of these tribes, and, under the circumstances, it would be necessary that a cursory glance should be taken of them.

To show that these cairns or cromlechs are not confined to these Hills, but are scattered all over the hills and plains of Southern India, is not difficult. Two miles west of the lake of the Red Hills several cairns exist, of which a description is briefly given in the form of a memorandum in the *Madras Literary Society's Journal*, No. 21, October to December, 1838, p. 346. The cairn is said to form a parallelogram within a circle of various dimensions (the squares and circles); squares 6 feet long and $2\frac{1}{2}$ to 4 wide, diameter of the circle 18 feet; and underneath a granite slab is found an earthen vessel filled with human bones; and pieces of broken pottery are said to lie about those that have been opened, and the writer believes that in all probability they were introduced prior to the introduction of Hindooism.

The Rev. J. S. Kearns, Missionary of the Society for Propagation of the Gospel, Madras, describes some of these cairns in the *Madras Literary Society's Journal*—No. 1X, New Series, Volume V. (Old Series XXI, No. 48, p. 27, 1859)—as found at Courtallum, a village in the Tenkasi Taluq of the Zillah of Tinnevely. Mr. Kearns gives drawings of urns, pottery, spear-heads, hog spears, sword pieces, etc., as found in them. Some of the urns are said to measure four feet in height and about three in greatest diameter, without ornament, the mouths only being moulded into bead work. Some are without them; others are described as of coarse manufacture, but strong and durable. Mr. Kearns believes that these are quite different from those discovered in Ireland, and with which he is acquainted. Some small earthen vessels of exquisite manufacture were also found in these cairns, and Mr. Kearns states that the pottery of the small vessels is exactly similar to those seen in the cairns of the Annamalais and Neilgherries. At the bottom of the cairns iron weapons were discovered, but mostly reduced to an oxide.

In the *Madras Literary Society's Journal*, No. 32, January to June, 1847, p. 77, Captain Congreve gives an able and interesting account of the Neilgherry cairns, and in this elaborate article endeavours to make out, or rather connect these cairns, etc., with the Todas, and thus unite them with Celtic Scythians, but which, from all I can see and learn, cannot stand good,

and although Captain Congreve's arguments are specious and learned, yet they do not prove the object.

In the same Journal, vol. xvi, parts i and ii, 1847, p. 78, the Rev. W. Taylor alludes to Captain Congreve's article, and publishes a couple of translations from the vernacular, giving an account of these cairns, with remarks by himself. Mr. Taylor speaks of having met with a gentleman who told him of the tombs and grotto houses found at Chittoor, which, on being opened, were found to contain pots or jars, and that the receptacles that contained them were termed *Panja Pandaval*, and that the contents of these vessels were examined by a medical officer, who declared that the bones were not human.

The kitchen utensils found in these cairns are those still in use among the natives of Southern India, but the natives know nothing of these cairns. The Rev. Mr. Taylor states that they are termed *Panta Curzi*, *Puddu Curzi*, *Kurumba Curzi*, etc., and the Native wrote that *he* had seen them in several places of what is now termed the Madras district. They are also met with, I know for a fact, in most districts of Southern India. Mr. Taylor explains the different names given to them by natives. I find that they are invariably termed *Panta* or *Kurumba*, *Curzi*. Both these terms are the most popular not only with the learned but the ignorant, and are generally connected with the rule of the Pandavas; they are more or less alike wherever met with, differing in size and form in the same locality as well as in the several districts. This probably is in accordance with the different degrees of rank enjoyed by the people who erected them. From my own personal experience, and the several excavations I have made, on general principles the contents were all more or less alike: in some places the urns, jars, pots, etc., are more or less ornamented, and in others plain. These patterns I find are of three different kinds: some are of red or black clay; the smaller vessels are nicely made and finely glazed, the larger pots and jars are somewhat coarse, and the more large pots and trough-like vessels are coarser still in make. Captain Harkness, in his *Description of a Singular Aboriginal Race Inhabiting the Neilgherry Hills*, 1832, gives an account of the cairns, with a drawing of urns and animals found in them—*vide* pp. 33 to 36. Captain J. Ouchterlony believes that these cairns belonged to some peculiar race who in former times inhabited these Hills, and that they afford no clue to the history of the Todas; and the assumption that the Todas are the descendants of Scythians, and the cairns the work of their ancestors, is erroneous—*vide* his "Geographical and Statistical Memoir of a Survey of the Neilgherries, 1847," published in the *Madras Literary Society's Journal*, January to December, 1848, pp. 79 and 80.

The ornamentation consists of bead work in relief, sometimes forming zig-zag raised edges. Among the excavations I made in the Madrás district, I found large and small vessels of various kinds: hatchet iron without handles, spear heads, iron tubes, like the cut off ends of a gun-barrel, used probably as blow pipes, and long iron pins, etc. From these facts it appears to me that the cairns and cromlechs found on the Neilgherries have the same origin as those interspersed on the plains and other hill plateaus of this Peninsula, and are most probably of the same age. As regards the ornamentation and other slight differences, they may be accounted for by local peculiarities. In proof of this, I can cite similar instances in connection with what is known as the *Cunyah Covil*, which consists in some Neem, Peipul, or Banyan tree being selected and dedicated to a virgin goddess—frequently a large white ant burrow exists here, and it may even form the residence of a cobra. To the presiding deity, offerings of men, horses and cattle, etc., are made in terra cotta, or baked clay, after the usual manner of pottery, and are placed under the shade of the tree by childless women in fulfilment of vows made. These offerings are supposed to propitiate the goddess who takes up her residence on the tree, to enable her to open the barren womb, and confer the blessings of maternity. In some places heaps and heaps of earthen images, which have accumulated for ages, may be seen; but the finish and ornamentation of these different statues vary, not only in the same but in different places, according to the age of the vessels and qualifications of the potters who formed them. In the south, similar offerings are frequently made to some of the numerous *Sanny* houses met with in those parts.

That the several cairns, cromlechs, etc., contain vases, urns, and various kinds of domestic utensils and glazed pottery of various forms, is certain, differing only slightly in make and shape, and it would appear that some of these contain ashes of what are believed to be cremated bodies, from the specimens of animal bones and charcoal found in them.

Dr. Caldwell, in his *Comparative Dravidian Grammar*, p. 526, states that similar remains are met with in Circassia and Russia; and circles of stones surrounding ancient graves are found both on the Southern Arabian Coast and in the Somali country in Africa.

The Todas themselves attribute the cairns found on the Neilgherries sometimes to a people who preceded them, at others to the Kurumbas, and that they formed their burial places. We now know that these cairns are met with, not only in our own, but in the sister presidencies also—in fact throughout the Peninsula of India.

On the Neilgherries there are still a few cairns that have not been opened ; a few of these may be seen about three miles out on the Makoortee road, on the crest of the Hills, called by the Todas "*Caave* and *Curreen*." Large numbers of cairns and cromlechs, which have been untouched, are met with in the Madras, Chittoor, and Salem districts. It is generally believed by the natives that these cairns and cromlechs are the work of the followers of the Pandean king, and that these at one time ruled on the Neilgherries also. The Todas and Badagas likewise believe this, while some of them attribute them to the Kurumbas. The Rev. Mr. Metz is also of the latter opinion, and I am inclined to coincide with this gentleman. We know that the Kurumbas were interspersed all over Southern India, and were driven from thence probably by their conquerors to the jungles and hills they at present occupy, and it seems likely to have been their work, executed possibly during the Pandean dynasty, a succession of kings ; this is also the popular belief among the natives generally. The objection brought against this view by some writers is that the Kurumbas, as a race, are of a dwarfish stature, and physically weak and feeble, and that they could not have been able to move the large masses of stone which form the cromlechs. To this I would answer—look at most of the Hindoo temples and Muntapums, where large masses of stone and huge monolithic pillars are to be seen ; how were these moved to great distances and made to occupy the positions we find them in at present ? The natives were not generally conversant with skilled mechanical appliances, such as cranks, pulleys, etc. ; yet how frequently do we witness, even in the present day, in remote parts, the ease with which they move and raise to lofty positions huge masses of stones by simple means. This is effected, for the greater part it is true, at the expense of much human labour ; but from the fact of labour being always plentiful and cheap in India, it is not looked upon in the same light as with us. We know, also, how, during native rule, human labour was impressed to execute gigantic works ; and with these facts before us, we need not despise the dwarfish stature and feeble physique of Kurumbas, for their deficiency in size and strength is made up in numbers, when they must have formed large communities.

I have observed in the south, among the Maravar people, that they frequently erect in front of their dwellings square sheds, open on all sides on a raised floor, and under this a large flat stone placed on supports raised two or three feet from the ground. On this stone all their chief domestic and religious ceremonies are conducted. A good example of this may be seen in the palace of Shevagungah, where it is termed

Kurrunkul chowkay, and I have seen similar erections at other houses in and about Shevagungah and elsewhere. To me these shrines appear to have some occult connection with the cromlechs, and to be in a measure figurative of them. These are erected in individual houses, and should not be confounded with what may be frequently seen in the Cuddapah, Kurnool, Bellary, and other districts, where large slabs of gneiss or blue limestone are placed in the villages under some shady trees, and on which, during their leisure moments, the men squat themselves to discuss the gup of the day or the more important affairs of their agricultural operations. These places also form the head-quarters of the village punchayets during their sittings.

PART IV — KURUMBAS.

Kurumbas.—From *Kurumboo* mischief, the characteristic of a class of savages who are supposed to be the aborigines of Southern India, from which the term Kurumba is derived.

A tribe who call themselves, and are recognised as, Kurumbas, having three sub-divisions among them, namely—

1. Mullu Kurumba. 2. Naya Kurumba.
3. Panias Kurumba.

These three are alike in caste, social and domestic habits, etc., but chiefly derive their appellation from the localities in which they reside. As a body, they confine their habitations to the middle belts of hills or intermediate slopes.

The *Mullu Kurumbas* chiefly occupy the middle belts of these hills, while the other two divisions are confined to the lower slopes, or are inhabitants of the Wynaad jungles; but the tribe generally is recognised as mountaineers. Portions of the same tribe are scattered over many parts of Southern India, more especially to the south; and as a body are somewhat erratic and restless, migrating from place to place, selecting generally some forest or jungle, either on the summit, slope, or base of some hilly tract, for their temporary abode.

Physical appearance.—The Kurumba tribe are small in stature, and have a squalid and somewhat uncouth appearance from their peculiar physiognomy, wild matted hair, and almost nude bodies. An average of twenty-five Kurumbas gives the following measurements, etc.:—

Age, 30·20 years; height, 60·64 inches; circumference of head, 20·24—short from end to end, with a lofty crown or dome, and a prominent forehead; neck, 11·04 inches; chest, 30·15; arms, 8·77; thighs, 15·27; length of arms, 29·50; length of hand, 6·75; breadth of hands, 3·18; length of legs, 35; length of feet, 9·75; breadth of feet, 3·25 inches; and in

weight (avoirdupois), 100·44 pounds. They have a shortish and spare form of body, with a peculiar wedge-shaped face and obtuse facial angle; cheeks hollow, with prominent molars or cheek bones; slightly pointed chin; eyes moderately large, and frequently blood-shot; colour of irides dark brown (No. 1 of Paul Broca's Tables); the nose has a deep indentation at the root about $1\frac{3}{4}$ inch in depth, which is general, and when contrasted with the profile, or line with the ridge of the nose and *os frontis*, it gives them a very peculiar expression of feature. Distance of growth of hair from root of nose to scalp, $2\frac{1}{4}$ inches; length of nose, $1\frac{3}{4}$, alæ widened; nostrils exposed; breadth of nostrils, 1 inch and 5 lines, ridge slightly depressed. The hair is long and black, and is grown matted and straggling, somewhat wavy, and is sometimes tied into a knot, with a piece of cord on the crown or back of the head, while the ends are allowed to be free and floating. They have scarcely any moustache or whiskers, and a straggling scanty beard; occasionally one is met with who has a full moustache, whiskers, and beard. They are, as a body, sickly-looking, pot-bellied, large mouthed, prognathous, with prominent out-standing teeth and thick lips—frequently saliva dribbles away from their mouths. They are recognised by the Toda tribe as mountaineers, and are called by them "*Curbs*," and from them they exact certain services. The men show great agility in climbing and descending hills, trees, etc.

The women have much the same features as the men, only somewhat softened in expression, and slightly modified in feature, with a small pug nose, and surly aspect. Their general appearance is anything but prepossessing. Hair tied at the back, carelessly divided in the centre, and the sides scraggy. Some of them are of small stature and coarse build; others smaller, and of delicate make. An average of twelve gives the following measurements. I regret that I was unable to complete the usual number of twenty-five:—

Age, 17 years; height, 54·25 inches; circumference of head, 19; neck, 9·75; chest, 26·25; arms, 7·75; thighs, 11·50; length of arms, 24·50; length of hand, 6·75; breadth of hand, 2·38; length of legs, 33·10; length of feet, 8·25; breadth of feet, 23·15 inches; weight (avoirdupois), 68 pounds.

They are very shy of strangers, seeking shelter to hide themselves from view; very morose when spoken to, and seldom replying to questions put.

Dress.—The men have scarcely any clothing beyond their *lungooty*, though some few, well-to-do, are met with dressed like other natives. The women have merely a piece of cloth round the chest, extending from under the arms to the knee;

others have only a waist cloth, having their breasts and other parts of the body exposed and naked. Some few, who can afford it, have better clothing, and cover their breasts. The cloth is tied with a cord or strip of bark under the armpits, and a second cord encircles the waist and keeps the cloth bound, producing an ungraceful and stiff appearance.

Ornaments.—Both men and women are fond of these, and wear a few rude ones made of iron, brass, various seeds, shells, and glass beads, as earrings, necklettes, armlets, bracelets, rings, etc. Sometimes these are made of plaited straw, giving to them, when worn, a very singular, but not unpicturesque, appearance. Some of the women have tattoo marks about their arms and shoulders.

Villages and Huts.—Their villages are termed "*Motta*," and are generally located at an elevation of 2,000 or 3,000 feet in mountain clefts, glens, or forest sheltered localities, comprising one long apartment, extending from 30 to 50 feet in length, scarcely 5 feet high, loosely and scantily covered with thatch, grass, leaves and branches of trees, walled round by brushwood or bamboo plaitings, and divided by the same into several apartments, each not exceeding 8 or 10 feet square. There is neither door nor door frame, but the huts are shut at night by placing plaitings of bamboo or brushwood against the opening. Their dwellings are usually surrounded by small patches of cultivation indifferently and carelessly cultivated, without the use of manure of any kind.

Household Furniture.—They have no furniture; their utensils comprise one or two chatties, vessels of bamboo, and bottle gourd, shells, etc. At one time it is believed that they did not possess even a cooking vessel: flat stones were heated, and on them their grain was parched. Some have animal skins, others bamboo plaitings, to sleep on, and some sleep on the bare ground without anything. The whole family huddle themselves together into a single hut, and frequently have not sufficient room to stretch themselves at full length.

Language.—Their speech is a corruption of Canarese and Tamil, and among themselves they give a peculiar twang to their words, that without some practice and familiarity with them they cannot be easily understood. They have no written language or tradition of any kind, and know nothing of their ancestors.

Cultivation.—The various dry grains, chillies, indian corn, yams, and some of the commonest vegetables, are grown by them in extremely small quantities, but, as a rule, they do not cultivate. Frequently, a piece of jungle is rudely cleared, the soil roughly broken up, and such seeds as they can obtain from

the villages in the vicinity (plains) are scattered on it; sometimes patches of land at a distance from their abodes are cultivated in like manner. They also have the plantain, mango, jack, and other fruit trees, which in a manner grow wild in the vicinity. When their cultivation is at some distance, the family remove thither during harvest time, inviting their friends to join, and reaping only so much as is requisite for their immediate wants. The grain so reaped is broken between stones into rough meal, and boiled into porridge or baked into cakes. They never store the produce of their harvest, or preserve any for future occasions; but eat while they can procure it, living in idleness and making merry while the supply lasts. Sometimes the community unites, and live on the produce of a single family, moving in succession from one patch of cultivation to another; and when the whole of the cultivated plots are exhausted, there is no other resource left them but to fall back on the produce of their fruit trees in the neighbourhood, such as the jack and plantain, with other wild fruits; or the community scatters, each family taking a different direction towards the jungles, in search of honey, edible roots, and fruits. They are fond of the chase, and are expert in waylaying and destroying animals, either by nooses, nets, or rude constructions of stone gins. Thus they frequently live on the flesh of the *sambre*, spotted deer, squirrel, wild cat, rats, snakes, etc. Sometimes they engage themselves as labourers, and are very expert in felling jungles and forests, cutting wood, squaring timber, etc., but do not take kindly to other kinds of manual labour. Frequently, they are so hardly pressed from want, that the men take to the jungles, and the women to the villages in the vicinity, where they crave for and receive the refuse rice, rice-water, etc., and will sometimes do a little work in cleaning, winnowing, or grinding grain, for which they receive wages from the women of the different villages, in the shape of small quantities of cooked food or grain.

Ceremonies.—They have no marriage ceremony, but are guided by fancy, and after some time of cohabitation they take it into their heads to get up a feast, when they promise before friends to live together as man and wife; but some of them, who are sufficiently enlightened by frequenting neighbouring villages, carry out some trifling ceremonies in their attempts to ape the Hindoos, when they feast their friends according to their means, followed by a general bathing and dressing with new cloths, and dancing together, promiscuously on such occasions.

Ceremonial offices.—Those Kurumbas who live on the hills officiate as priests to the Badagas, another tribe which forms

the chief population of these hills. The Badaga will do nothing without the presence of a Kurumba, so that each district has its own Kurumba priest. No cultivation can be carried out without the presence of one or more Kurumbas. The Kurumbas, after some unmeaning ceremonies, must start the first plough, sow the first handful of seed, and gather the first sheaves, before it is followed up by the Badagas. Sometimes, on such occasions, they sacrifice a sheep, goat, or other animal, of which the Kurumba appropriates a portion for himself. Should the field become blighted, their cattle attacked with murrain, or themselves sick, the Kurumba is called in at once, and requested to use his enchantments to free them of those evils, and to propitiate the offended deity. On these occasions he frequently goes among the cattle, or in the fields, on all fours, lowing like a calf, to propitiate the deity, and frighten away the blight, murrain, etc. He is supposed to be well versed in the use of herbs, and prescribes for all their ailments; implicit confidence is placed in his skill, and he is remunerated either in money or grain, and sometimes both. The Kurumbas also officiate as priests at their marriages and deaths. The customary fee paid by the Badagas to the Kurumbas is four annas for every yoke of cattle or plough they keep. The produce of the first sheaves reaped by the Kurumbas is immediately threshed, made into meal, baked into cakes, and offered to Ceres, as the first-fruits of the land. The Kurumbas, as a body, keep the other tribes in great dread of witchcraft, not even excepting the Todas, who look upon the Kurumbas as great adepts in the power and skill of bewitching or destroying men, animals, or other property. The natives of the plains also fear them for their black arts: a Badaga will not meet a Kurumba alone, he will flee from him as from a wild beast, and is ready to die of terror. The Kurumbas are also employed as musicians by the Toda and Badaga tribes on all ceremonial and festive occasions; they play on the flute and tom-tom very dexterously to the admiration of the Todas and Badagas. On all festive occasions, the Kurumbas, as well as the other tribes (Kotars and Irulas), are invited and receive their share of the sacrificial offerings. Ceres, the goddess of corn, is nominally said to be their household god. The Todas are respected more than any of the other tribes. Their dead are either buried or burnt as may be found convenient at the time. They withstand the endemic diseases of the locality pretty well, and are not subject to fever. It is said of the other tribes that if they happen to sleep for a night in the localities occupied by the Kurumbas, they are sure to contract and die of a virulent kind of fever,—so deadly are the places inhabited by this tribe.

Deities.—They hold some crude notions of a superior being, whom they designate under a variety of names, with no distinct idea as to who or what he is. They sometimes offer sacrifices of fowls, sheep, goats, with fruits and flowers, to any stone, tree, or anthill; or they pay adoration, under divers appellations, to any particular locality which they may take a fancy to.

Superstitions.—The Kurumbas are superstitious; and while they keep all the other tribes on these hills in awe, they themselves fear the Todas, believing that they possess supernatural powers over them. They are fanciful in their ideas, and would at times worship anything they meet with as a deity. They are said to hold in respect, and make offerings at, the different cairns and cromlechs met with on these hills, and from which it is believed that these cairns and cromlechs are the work of their ancestors. Against this, their weak and dwarfed stature is brought forward as an objection, as most of these cairns and cromlechs are built of huge stones, such as is believed the Kurumba tribe could not move in the absence of suitable appliances. Again, the Todas, who are the first occupants of these hills, and whom the Kurumbas followed, know nothing of these cairns and cromlechs, and it is not possible they would have been ignorant of the work of the Kurumbas if they were the originators of these singular depositories of the dead. At present, the subject is involved in mystery.

Diseases.—They are subject to fever, smallpox, ophthalmia, rheumatism, and dropsy as a rule. They do not adopt any treatment; but, at the instigation of the old women, they frequently resort to various herbs, roots, etc., with which they practise on others.

Products of the Jungles.—They obtain from the jungles several kinds of grain, fruits, medicinal herbs, roots, honey, and beeswax, which they barter to the low country people for grain and cloths.

REMARKS.—The Kurumbas, or Curbs, are believed by some to have been a class of nomadic shepherds of the plains at one time, who were the earliest known inhabitants of the *Dravidadesam*, or country now embraced in the Carnatic or Coromandel. They at one time established petty principalities in the greater part of this peninsula, but were ultimately absorbed into the Chola kingdom, and their remnants became scattered into small communities, and are now found occupying hill tracts, glens, rock-clefts, jungles, etc., having lost all their flocks and herds, and deriving at the present day a precarious living from the jungles, and seldom practising agriculture. Numerous sites are still met with and recognised as “Kurumba Kotes” by the

natives generally; and it is possible that the subjects of this paper, the Kurumbas of the Neilgherries, are the descendants of some one of the communities that became scattered, and previously known as the nomadic shepherds of the plains, who overspread a considerable portion of the Tamil country; and their progeny are now met with, not only on the Neilgherries, but in many of the wilder parts of Southern India, in small communities.

Whilst the appearance of this tribe is so uncouth and forbidding in their own forest glens, they are open to wonderful improvement by regular work, exercise, and food: of this ample evidence is to be seen at the Government Chinchona Plantations at Neddiwuttum, where a gang of Kurumbas, comprising some twenty individuals, are employed as labourers, receiving their wages in grain for the most part. They appear to give satisfaction to their employers; and in their general appearance they cannot be recognised from other natives, except perhaps by that peculiar physiognomy characteristic of the tribe, and their somewhat slight conformation and dwarfed stature. They have not the pot-belly, do not gape, nor is the dribbling saliva or bloodshot eyes, common to their brethren of the jungles, to be found among them. The headman of the gang called himself a maistry, and had four wives,—two were dead and two alive; he was the father of ten children, of whom one died, and nine were alive. Each individual takes as many wives as he can keep,—one is the chief, the others are looked upon as concubines. They are subject to the headman of the tribe, without whose consent they will do nothing, and to whom all their disputes are referred for arbitration.

Since these pages were written, I have met with a few Kurumbas scattered over some of the coffee estates in the vicinity of Kotagherry and Goodaloor, where they were employed as coolies in weeding and pruning the coffee-trees. Regular work, proper food, and exercise, have very considerably improved the habits and appearance of this people.



PART V.—KOTARS.

This tribe ranks next to the Todas in priority of occupation of these hills. They have no caste, and are in this respect equal to the Pariahs of the low country; and, as a body, are the most industrious of the hill tribes, giving much of their time and attention to agriculture and handicraft, etc. When not required on agricultural operations, they employ themselves as carpenters, smiths, basket-makers, etc., making and repair-

ing their ploughs, bill-hooks, mamoties, etc. They also employ themselves as carriers, and are highly esteemed in the plains for the excellent leather they cure. They perform all the menial offices required by the Todas and Badagas, supplying them with barbers, washermen, etc. They acknowledge the Todas as lords of the soil, and accordingly pay the tribute demanded by them as "goodoo". At the same time they exact from each hamlet of the Badagas, within a certain distance of their own village, certain annual fees, which they receive in kind, for services rendered as handicraftsmen, etc., in addition to that of ceremonial or festive occasions for menial services performed. As cultivators of the soil, they only produce as much as will satisfy their own requirements, and any surplus they may obtain is bartered for iron and other produce of the plains. In confirmation of their having followed the Todas as settlers on these hills, they hold the best lands, and have the privilege of selecting the best whenever they wish to extend their holdings.

Physical Appearance.—They are well made, and of tolerable height, rather good featured and light skinned, having a copper colour, and some of them are the fairest skinned among the hill tribes. They have well-formed heads, covered with long black hair, grown long and let loose, or tied up carelessly at the back of the head. An average of twenty-five men gives the following measurements, etc.:—age, 27·68 years: height, 62·61 inches; circumference of head, 20·95; neck, 11·95; chest, 30·68; arms, 8·76; thighs, 15·52; length of arms, 30; hands, 7; breadth of hands, 3·25; length of feet, 10; breadth of feet, 3·50 inches; weight (avoirdupois), 105·20 lbs. They have a slightly elongated face with sharply defined features; the forehead narrow but prominent, and occasionally protuberant; ears flat, and lying close to the skull. The growth of hair from the verge of scalp to eyebrows, $2\frac{1}{2}$ inches distant; eyes dark brown, of moderate size and deep set, varying in colour from Nos. 1 to 5, in Paul Broca's tables; eyebrows dark and bushy, with a tendency to approach, frequently united to each other; nose, as a rule, smaller and more sharply defined than in the Todas, ridged and slightly rounded, and pointed at the extremity, two inches in length; alæ of nostrils expanded, measuring $1\frac{1}{4}$ inch in breadth; mouth of moderate size and well formed; teeth well grown and regular; lips of fair size and well compressed; chin well set and small. Altogether they may be pronounced tolerably good looking, and the general aspect of the countenance indicating energy and decision.

The women are of moderate height, of fair build of body, and not nearly so good looking as the men. An average of twenty-

five women gives the following results:—age 32.44 years; circumference of head, 20.36; height, 57.98; circumference of neck, 10.70; chest, 29.30; arms, 8.20; thighs, 14.63; length of arms, 26.52; length of hands, 6.50; breadth of hands, 3; length of legs, 35; length of feet, 9.25; breadth of feet, 2.25 inches; weight (avoirdupois) 96.24 lbs. Most of them have prominent foreheads, with more of a snub-nose, and a somewhat vacant expression about their features. They are rather timid when approached, frequently running into their huts and shutting themselves up. They seem to enjoy robust health, and have large families. Their arms are tattooed, having nine streaks, with four dots on each arm, thus , and four circular marks on each forearm, thus . The women assist the men at their work in the fields, and make baskets, chatties, and pots, etc.

Villages.—There are some seven villages altogether: six of these are located on these hills, and the seventh is at Goodaloor. They form large communities, each village containing from thirty to sixty or more huts, of tolerable size, built of mud walls, and covered with the usual thatch-grass, somewhat after the style of native huts in the plains; but the arrangement of the dwellings is far from being neat or prepossessing in some villages. The floors are well raised from two to three feet above the soil, with eaves or a short verandah in front, and a pial, or seat, on either side of the door, under the eaves, on which the people squat themselves when idle. The size of the doors, giving entrance to their huts, measures 46×26 inches.

The station of Kotagherry takes its name from the Kotar villages in its vicinity. The Kotars, as a body, are a dirty set, with most foul habits. All the dead cattle and carrion in the vicinity, of every kind, find acceptance amongst them as food, and is devoured by them. The whole Kotar population of the seven villages is supposed to count a little above one thousand souls.

Religion.—The Kotar religion is idolatrous to some extent: some rude image of wood or stone, a rock or tree in a secluded locality, frequently form their objects of worship, to which sacrificial offerings are made; but the recognised place of worship at each village consists of a large square piece of ground, walled round with loose stones, three feet high, and containing in its centre two pent-shaped sheds of thatch, open before and behind, and on the posts that support them some rude circles, and other figures, are drawn. No image of any sort is visible here; and these buildings, which are a little apart, are supposed to be dedicated to Shiva and his wife. They have crude and indistinct ideas of these deities. They hold an annual feast in

honour of their gods, which comprises a continuous course of debauchery and licentiousness, extending over two or three days. On these occasions they clothe and ornament themselves in their best, and make as grand a show as they can, to witness which the other tribes are invited. Perhaps this is the only occasion, if at all, that they have recourse to water for the purposes of ablution. Much indecent dancing takes place on these occasions between the men and women, and more frequently the spirit of their deity is supposed to descend on some of them, when their frantic deeds are sickening to behold, and seem to form but a branch of demonology.

Ceremonies.—The Kotar marriage is a simple rite, and is much in conformity with that of the low caste or Pariah of the plains. As a rule, they marry and live with one wife, and have a number of children.

Cattle.—The Kotars possess a small breed of cows, but have no buffaloes. It is believed that the Todas will object to their having buffaloes on account of their uncleanly habits; consequently, they make no effort to procure them. They never, as a rule, milk their cattle, but leave it all to the calves.

Annual Feast.—The Kotars keep up an annual feast in memory of their dead, when a few cattle are slain on a rude kind of altar constructed for the purpose, and on it a portion of the flesh of the animal is laid, with a little of each of the different kinds of grain they cultivate, and is consumed as a burnt offering to their gods, in memory of their dead relatives and friends. During this ceremony, the young men and maidens dance around the altar promiscuously. Whilst the younger members are thus engaged, the elders busy themselves in preparing a grand repast for their friends, whom they invite from the adjacent villages on the occasion of this annual festival, supposed to be all souls' day, or analogous to it. More cattle are now slain, and the flesh mixed with small portions of every kind of grain grown in their fields; a great bonfire is raised, and the scene becomes one of confused riot and mirth, with blowing of the death-horn, mingled with yells and shrieks and beating of tom-toms, the confusion continuing from morning till night.

Language.—The Kotar language seems to be a vulgar dialect of the Canarese, having the same Tamil roots, but differently pronounced, without the guttural or pectoral expression of the Todas. They are believed to be descended from some of the low caste tribes of the plains, who in days of yore sought refuge on these hills from persecution practised on them by the invaders of India. Thus they have been occupying these hills from time immemorial: they did not precede, but were the

first among the other tribes who followed the Todas, and formed settlements on them. They are not held in much estimation by the other hill tribes and European colonists, in consequence of their partiality to carrion, in which respect they resemble the Pariah of the plains, with this difference that, from their proximity to an European colony, their habits have been noticed more prominently; hence this tribe has acquired a more odious reputation than, perhaps, any of the other races in Southern India.*

The Kotars either bury or burn their dead; more frequently burn, if they can command the wood required for the purpose. Next day, the ashes of the deceased are collected and buried in a hole; to mark the locality, a staff is set up. In cases of sickness, they make use of such roots and herbs, as their old women commend. The sick are carefully attended to; but in some of the villages, as Kotagherry and Goodaloor, they resort largely to European medical treatment.

REMARKS.—The Kotars are a most remarkable class, and are not only the most industrious, but the only class of people that I have known who possess so extensive a knowledge of handicraft. Rude as their work may be, there is scarcely a useful work connected with the mechanical arts, trade, agriculture, or husbandry, that they are not conversant with; and had they only received the encouragement and patronage bestowed by Europeans on the idle Todas, it is impossible to state to what extent they might have advanced in the several arts they practise, and how far they might have got rid of some of their filthy habits. In this respect they are nothing better than the Pariahs of the plains, who comprise the majority of our domestic servants, many of whom still partake of carrion, and their relatives in distant villages glut over the carcasses of dead animals, and which, of right, they claim and carry away. Like the Pariahs of the plains, the Kotars are addicted to drinking, and, in the absence of liquor, resort to opium-eating. There can be no doubt that, like the Todas, these people also belong to the great Dravidian family who were driven to these mountain-tops by conquest and persecution.

The Kotar population consisted, in 1847, according to Captain Ouchterlony's memoir, of 307 souls, distributed in seven villages; but in 1867, the collector of the district gives the population as 802, with 217 houses.

* "They (Pariahs) will eat not only animals killed on purpose, but also such as die naturally. Oxen and buffaloes which perish from old age or disease belong to them of right, and they carry home and greedily devour the tainted carrion which they find on the highways and on the fields."—Abbé Dubois, p. 90.

PART VI.—BADAGAS.

The Badagas are an agricultural race. The term Badaga is supposed to be a corruption of the word “Vuddaca”, or north, as they are believed to have migrated to these hills from either Mysore or Canara in consequence of famine or persecution, and, finding these hills would afford them shelter and quiet, they settled here, and at present constitute the chief population of these hills. On settling here originally, they acknowledged the sovereignty of the Todas, who pre-existed there, and agreed to pay tribute, or “goodoo”, if allowed to continue unmolested. The goodoo so paid comprises one-sixth of the produce; and although of late years they have sometimes questioned their right to pay, yet the Todas exact it as an immemorial right, so that with some demur it continues to be paid. The Todas call them “Mav”, or, father-in-law. Both men and women of the Badaga race work in cultivating the soil. Of late years, owing to the extension of European enterprise, a large number of the males find employment as labourers and artisans. They do not live in isolated communities like the other tribes, and their villages and huts are differently constituted both in material and style. Their houses are usually constructed in parallel lines, with intervening streets, each row of dwellings being built of stone and mud, with a roof of good thatch, and divided into separate compartments, having a wide terrace in front to dry, thresh, and winnow their grains. Their hamlets are generally located on some gentle eminence, surrounded by wide glades of grass or fields of cultivation, and present a neat appearance. The interior of the apartments are divided into two rooms, having a double tier of lofts one above the other. The back eaves are enclosed, and thus form a second or inner room. The door is the only opening, which measures 43 inches in height, and $26\frac{1}{2}$ in breadth. The furniture comprises one or more mats, a rice pounder, and a mortar made in the floor,—a hole five or six inches deep,—one or more brass salvers or dishes, a few earthen vessels, and a fireplace. The walls of a few houses are white-washed, but this is, if it may be so termed, a late innovation. Each family has its cowpens or sheds in the vicinity, substantially built, for shutting up their cattle at night.


The Badagas have the usual elongated heads and Hindoo features, and are rather light-skinned, and are the fairest of the tribes who occupy these hills,—of small make generally. Many are comparatively wealthy, which only tends to corrupt them, by leading to slothfulness and sensuality, and renders them averse to moral or physical improvement. As a class

they are utterly illiterate, and show no anxiety to improve either their social or moral character. An average of twenty-five men gives the following weight and measurements:—age, 33·80 years; height, 66·70 inches; circumference of head, 20·61; neck, 12·22; chest, 31·83; arms, 9·20; thighs, 15·99 inches; and the weight (avoirdupois) 110·76 pounds. They are Hindoos, and followers of the Siva sect. They have numerous subdivisions of caste among them, each differing in some social or ceremonial custom, and are distinguished from each other by certain sacerdotal strings and amulets, which they wear on their persons. Eighteen sects, or castes, are enumerated. These are as follow:—

1. Woodearu, officiate as priests to the other classes in all family ceremonials.
2. Kongaru, } divided into { 1. Lingadikaries (vegetarians).
3. Adikaries, } { 2. Flesh-eating Adekaries.
4. Kanakaru, village accountants.
5. Chittre, outcasts from the Woodearu subdivisions.
6. Belli, another subdivision lower than the last, and believed to be the descendants originally of silversmiths.
7. Haruvaru, a spurious set of Brahmins, make use of the Poieta, and officiate as priests to the other classes during harvest.
8. Hattara, }
9. Anearu, } ryots.
10. Mari, }
11. Kasturi, } labourers and ryots.
12. Dumah, }
13. Gonoja, } do. do.
14. Manika, }
15. Toreas, the lowest caste among the Badagas.
16. Kumbararu, pot-makers.
17. Vellalers, a division from the Vellalers of the plains.
18. Koonde, inhabitants of the Khoonda mountains.

Each of these several subsections have their own ceremonies and peculiar social distinctions, which differ but slightly from each other. When a young man is desirous of forming a matrimonial alliance, he leaves the choice of his future partner to his parents; and when a selection is made, the couple are betrothed, but the marriage does not take place until the girl arrives at a mature age. Some formality is observed at their wedding ceremony: a pandal is erected, under which the wedding party assembles; a pot of water is thrown over the head of the bride, in the midst of the music and singing; the mother of the bridegroom afterwards ties a skein of silvery beads round the neck of her future daughter-in-law. When this ceremony is completed, on the first following auspicious day the bride is taken to the house of her husband, where she is received by him under another leafy canopy, and when finally installed in her new position, her parents wash their hands in token that

they resign all claims upon her to her husband. Polyandry does not exist among them, but each man has his own wife. As a class, the women of this tribe are far more chaste, and prostitution is unknown among them; but should a woman wish to separate from her husband, no restriction is placed upon her, except that she has to relinquish the children to their father. This loose morality has led to much mischief: when dissatisfied with each other, they frequently change husbands or wives, as fancy dictates. A married couple, thus parted, are permitted to marry a second time. These customs of marriage and divorce are common to the Kotar tribe. The Badagas are strictly Hindoos, and consume flesh meats, except beef. One section are vegetarians, subsisting, like the Brahmins of the plains, entirely on vegetables. They are partial to the cabbage, and a species of nettle (*Urticaria Tuberosa*), as vegetables. The latter grows freely on the hills, producing a large tuberous root of a highly nutritious nature, which is much esteemed and freely eaten by the Badagas. Their chief diet consists of rice and other dry grains, the produce of these hills.

Dress.—The men clothe themselves much like the natives of the plains, with head and waist-cloths, and a sheet is used, like a wrapper, covering the shoulders and trunk of the body. This is necessary in consequence of the coldness of the climate, and many use it now in the Toda fashion. The women pass a white cloth under their arms, which extends to a little below the knees. In this they roll themselves, fastening the cloth with a piece of cord under their arms, and a second around the pelvis, to prevent it getting loosened. This singular mode of dress gives them quite a mummy-like stiff appearance. A second small piece of cloth is tied round the head, with the ends floating behind. The arms and shoulders, and one-half of the legs below the knees, are bare. The women have tattoo marks, three rows of dots on the chest, each row comprising from seven to nine dots, each row being half-an-inch, and each dot a quarter of an inch apart. The forehead is marked thus, . The hair is thrown back, and knotted loosely, on the nape of the neck. They are partial to ornaments, and wear rings, bracelets, armlets, necklaces, and ear and nose rings. The latter are to be seen only occasionally. The ornaments are made of brass, iron, or silver, filagree'd; the earrings are rather large, having a diameter of $2\frac{1}{2}$ inches. The women are domestic in their habits; kind, fond, and affectionate mothers, possessing the usual Asiatic features, with a feminine cast. They are simple, modest, and retiring. An average of twenty-five women gives the following weight and measurements:—age,

27·68 years; height, 58·51; head, 19·80; neck, 10·38; chest, 28·99; arms, 8·30; thighs, 14·14; length of arm, 27; length of hand, 6·75; breadth of hand, 3; length of legs, 34·50; length of foot, 9; breadth of foot, 3·25 inches; and the weight (avoir-dupois) 92 pounds.

The Badagas, like other tribes of Hindoos, have numerous deities. There are two sects, Siva and Vishnu. The principal deity of the Vishnuites is located in the—what is called—Rungasawmy Peak, and the officiating priests are men of the Irula tribe, where offerings of ghee and fruits are made. A secondary deity of this sect is located on a droog in the neighbourhood of the village of Hollikul, where a Badaga priest attends. But these people are not particular; as sometimes the same individual, carrying marks of Vishnu, may be seen officiating on Shiva's shrines. There are numerous deities, comprising male and female, whom they worship under different names. As a body, the Badagas are a timid and superstitious race, haunted with the dread of evil spirits, and are in perpetual fear of the Kurumbas, to whose mysterious power of sorcery and witchcraft they attribute all accidents and ailments which may happen either to themselves, or their families, cattle, and crops. Owing to this cause, in times past, this people became so excited as sometimes to murder the unfortunate Kurumbas without rhyme or reason, and some of the tribe have suffered the extreme penalty of the law in consequence. Yet, strange to say, with this exception, they, to some extent, respect the Kurumbas, and get them to officiate as priests on all social and ceremonial occasions, when connected with either their persons, families, fields, cattle, etc. They bury or burn their dead as they find most convenient at the time.

REMARKS.—The Badagas are ruled by their headmen and elders to a certain extent, subject to caste influence chiefly. They live peaceably among themselves, are kind and affectionate to their relatives and friends, respect the aged greatly, and tend to and rear their children with much love and care. In character, as a class, they are deceitful, ungrateful, and false. They constitute the largest population on the Neilgherries. Their marriage and other ceremonials are similar to those practised by the Hindoos of the plains; and in reading accounts of Hindoos of the plains, we find that of the Badagas, from whom they differ in no particular,—many of them, at the present time, have connections and friends on the plains. Consequently, I have not described their manners, habits, customs, and religion, as might be done. The brief account given above is ample for the purposes of this paper. In 1847, the population of the Badagas was 6,569, distributed over 227 villages.

In 1867, it is said to comprise 17,778 souls, distributed over 4,071 houses.

PART VII.—IRULAS.

The Irulas are not, strictly speaking, inhabitants of the Blue Mountains, but occupy the lower slopes and jungles that skirt the base of the Neilgherries. They are scattered into small communities, practising a rude system of agriculture, which scarcely furnishes them with sufficient food, so that, when pressed for sustenance, they resort to the jungles, and live on such products as they can collect. They make use of animal food of every description, not even excepting vermin and reptiles. They find occupation in collecting for their immediate wants the wild fruits, herbs, and roots, to appease hunger; also honey, beeswax, gums, and dyes of various sorts, and medicinal herbs and drugs, which they barter with the people of the plains in exchange for food and clothes. They are very intrepid as regards the wild beasts they frequently meet with in the jungles; and in their search for honey, they sometimes suffer severely from contact with wild bears. They hunt and take game of every description with great cunning and expertness.

There are two classes of Irulas, recognised by the terms Urali and Kurutali. The general term Irula is derived from the Tamil word *Irul*, or “dark”, implying that there was no light in them, and that they were wild and uncivilised. The term *Urali* means “rulers of the country”, and *Kurutali*, “serfs”, or “common people”. The other hill tribes do not recognise the Irulas as inhabitants of the Blue Mountains, and do not hold much converse with them. The following is the result of the weight and measurements of an average of twenty-five men:—age, 26·68 years; height, 61·78 inches; circumference of head, 19·83; neck, 11·39; chest, 29·91; arms, 8·42; thighs, 15·17; length of arms, 30; hands, 6·50; breadth of hands, 3·25; length of legs, 34·50; feet, 9; breadth of feet, 3·25 inches; weight (avoirdupois) 96·20 pounds. They are tolerably good looking, very much superior in *physique* to the Kurumbas, and, in some respects, even to that of the Kotars; but they are an idle, dissolute set,—the majority being vagrants, living on what they can obtain from the jungles and natural resources of the forest through which they wander, rather than labour and cultivate. They pay a trifling kist to government, according to the nature and extent of their holdings; but their tenure is very loose, simply holding lands at pleasure by paying assessment; but they cultivate little. They

do not recognise the Todas as lords, nor do they pay them "goodoo". The women are strong and stoutly built, anything but prepossessing in appearance, and very dark skinned. I regret I had not the opportunity of taking their weights and measurements. They are fond of ornaments, and wear heaps of red and white beads about their necks, thin wire bracelets and armlets, with ear and nose rings.

The men wear no clothing but the lungooty in their habitats; but, when working on plantations, they wear cloths like other natives. The women wear a double fold of a wrapper cloth, which extends from the waist to the knees; the upper part of their bodies, with their bosoms, are nude. The men wear their hair anyhow; sometimes it is long and tied over the head, at others short and scraggy, playing to the breeze. The women are much the same; but those I saw at the fair at Mettapolliem had the hair well oiled, combed, and parted in the centre, thrown back, gathered, and shelved on the left at the back of the head, like most of the women on the plains.

At one time, the Irulas rarely held communication with the other natives, living isolated lives in secluded places and unhealthy localities, and eking out a precarious existence. Their villages were small, seldom exceeding five or six huts, and cattle-pens scattered far apart, mostly located in groves of plantain and other fruit-trees, and built somewhat after the Kurumba huts, surrounded by the usual filth and dirt. They are more numerous in the southern than in the eastern parts. But of late years they have improved wonderfully by mixing with others, and taking employ as coolies on plantations, and working side by side with other natives. They give satisfaction to their employers. They have also gained another advantage by attending the large fair, or shandy, held at Mettapolliem every Saturday. They were gradually attracted thither, and by freely mixing with the people on these occasions, they have lost their timidity, and become somewhat self-reliant, though to a small extent only as yet; but the civilising influence of intercourse is not lost, and is slowly gaining ground among them. The men possess (some of them) good thews and sinews, look hardy, and, from their physical conformation and habits, are well adapted for laborious manual labour, and sufficiently intelligent to be taught anything in the labour line. They are ready to emulate the other natives when they can, as may be seen in those employed on coffee estates, where they are not recognised from the other natives by their dress or manners; and it requires close personal knowledge, with much discrimination, to recognise them as Irulas.

Religion.—In this respect their ideas are confused. They

have some knowledge of Shiva and Vishnu,—more of the latter than of the former. Under the term of Mahari, they worship the goddess of smallpox, otherwise known as Mariatha, to whose honour they erect a small hut, which they dedicate as her temple. Here they prostrate themselves, and offer sacrifices of goats and cocks. They have a temple on Rungasawmy Peak in the vicinity of Kotagherry, where, during an annual ceremony, they officiate as priests, and crowds of the Badagas, as well as pilgrims from other parts, flock to celebrate the same, with offerings of money and produce. I find, in fact, that these Irulas are, in every respect, the same as those found in the Madras district, whom I have already described,—*vide* Proceedings of Government, dated 17th May, 1864, Revenue Department, and the third volume of *Transactions of the Ethnological Society*, new series, 1865, London, under the head of “Some rude Tribes, the supposed Aborigines of Southern India,” p. 373. In 1847, the Irulas comprised 461 souls, distributed in 22 villages. In 1867, they are represented to comprise 505 souls, and 101 houses.

XXVI.—*The Native Races of Abyssinia.* By H. BLANC, M.D., M.R.C.S.E., F.R.G.S., F.A.S.L., etc., H.M. Indian Medical Staff, lately on special duty in Abyssinia.

[Read November 10th, 1868.]

HIGH—often impassable—mountain ranges separate Abyssinia from the burning shores of the Red Sea, and the sandy deserts where the Daukili and the Adail roam in search of pasture, more frequently of plunder. Towards the north and west, the same mighty barrier isolates this table-land from the savanna inhabited by the Barcas, the Shankalas, and the many Arab tribes,—vast expanse, stretching from the foot of the Ethiopian basaltic rocks to the White Nile, and to those almost unknown regions wherein the pagan Gallas dwell.

Although scorched at its base by the fierce simoon, Abyssinia stands aloof and apart, a gem in torrid Africa, the perfection of a temperate and healthy clime. Lofty plateaus, intersected by abrupt and deep valleys reveal there, more than elsewhere, Nature's strange and marvellous works;—rivers, such as the far-famed Nile,—lakes, like Haïk,—Guaragné and Tana, nowhere surpassed in beauty and loveliness,—the many-shaped mountains, some overturned pyramids, some as the ever-frozen peaks of Simien, mere white specks on the blue horizon and purer sky,—all unite to give to that land something so poetical, nay, so fantastic, that at first it is difficult to imagine, beyond Nature's peerless work, anything to astonish or surprise. However, it is so. The races that inhabit those regions offer so many special and uncommon features, that they are themselves, perhaps, of greater interest than even the land they dwell in.

In Africa, more than in any other part of the known world, we generally find native races in their greater purity. The Hottentots, the Zulus, the Caffres, etc., taken separately, are so well defined as to appear fashioned on one mould,—see one, you see the tribe; in manners, customs, religion, they are one, and any difference in species seems as if absorbed in the classic type. The Abyssinian, on the contrary, presents much analogy to many European nations, the offspring of divers invaders; and at the present day, the sight of one of the descendants of the primitive Ethiopian race, would be as great a marvel as if, in our own land, we met with one who could trace his lineage to the ancient Britons who fought against the victorious legions of Cæsar.

If there is not such a thing as a pure specimen of the pri-

mordial Abyssinian race,—did it ever exist? I more than doubt it,—can it have been the Shankala? that Negro tribe dwelling in the woods and forests of the low country on the north-western frontier of Abyssinia; or beyond the blue Nile, after its great curve through Godjam and the Galla country? or in the hot plains east of Tigré? No. Where they are found at the present day,—the flat-nosed, dark ebony, short, curly, woolly-haired, muscular, ignorant, and fetish-worshipping Skankala,—might have been seen centuries and centuries ago, ever since the existence of the race, the same as to-day, clad in the dried-up skins of animals, armed with the club, and similar to many of the wild denizens of his wilderness, a coward at the attack, irresolute in the defence, but ferocious when driven at bay. Were the Shankalas expelled from the fertile plains of Begemder? from the richly-watered basin of the Tana lake, and from the high ranges of Shoa, and the bleak plateaus of Amhara Proper? Have they, like so many other inferior native races, retreated before the advance of a superior one, and, abandoning their land to the invader, retired to deep malarious jungles, seeking in those very dangers for safety against a relentless foe? There is even no probability that such an event did occur. It is the same with man as with other sections of animal life, nay, even with vegetable existence itself. And it is quite as natural to admit that the tropical palm can thrive in the Siberian steppes, or the flora of the Abyssinian Alps in the deep valleys watered by the Blue Nile, as to credit that the temperate zone of the Abyssinian plateaus is the cradle of the Shankala race, the land they inhabited as a people until forced, by external agencies, to retire to localities better adapted to their organisation. The oldest records we possess about Abyssinia confirm these views. They represent the Abyssinian race as powerful, enterprising, and possessing a civilisation superior to that of any African race; indeed, it is probable that, since centuries, instead of improving, they have more than remained stationary,—they have fallen back. Their laws, their manners, their customs, are many of them borrowed from a civilisation foreign to their land; and even their feudal system is but a rude copy of rules that were acknowledged for centuries by Europe itself.

Be it, as some suggest, that the Abyssinians and the Egyptians originally formed but one race, afterwards cut off from one another, and that, influenced by different conditions, of existence, they varied after awhile so greatly as to cast doubts on a common origin;—be it that Abyssinia was peopled by a race of its own, but now extinct:—these surmises, as far as we are concerned, must for the present be discarded, as no vestige of

a primitive race can anywhere be traced. The Abyssinians of the present day constitute essentially a mixed race, in which the Arab, Jewish, and Galla elements are more or less intimately combined. The Abyssinians accept several large divisions among themselves, also a few distinct tribes. The first are—the Amharas, the people of Tigré, of Lasta, and of Shoa. The principal tribes or classes are—the Falashas, the Kamawnts, the Agavs, the Zalāns, the Waitos, and the Figens. Lastly, the Wallo-Gallas are becoming daily more and more an integral part of the population of Abyssinia, and have in so many respects assimilated themselves with the actual native races as to be considered as one of them.

The *Amharas* were originally the people who inhabited the small province included between the Tacazzé and the Bechelo on one side, Yedjow and Begemder on the other, although at the present day an Amhara is scarcely to be found in that part of the country where the Gallas so greatly predominate; the word Amhara, nevertheless, still serves to designate the majority of the population of Abyssinia.

By Amhara we understand all the *Christian* population of the large tract of country included between the Wallo-Galla country, Worihaimanoo, and Lasta to the east, and the low country beyond Koura to the west, and extending northwards to Tigré, and (towards the south) to the great curve of the Blue Nile.

The Amhara is handsome and prepossessing. He is well-proportioned, muscular, and strongly limbed; his head is large, with but a slight preponderance of basilar development; the face is small in proportion to the cranium; the eyes large, black, very beautiful, but somewhat devoid of expression; the nose straight or slightly curved; the lips small, often rosy; the beard generally scanty, and if of a certain length on the chin and upper lip, still very scarce, if not quite absent, on the cheeks; the teeth are even and white; the hair is coarse, curly, sometimes woolly, often long; the hue of the skin varies considerably from dark brown to a dirty yellow. The Amhara language is an impure Geez, with a mixture of Arabic and Galla words.

The *people of Tigré* inhabit the greater portion of the northern provinces of Abyssinia. They differ but slightly from the Amharas; the head and face are somewhat longer; the teeth more irregular, long, and prominent; the eyes smaller but brighter; and the face more bony and angular. They are also of middle height, but less largely built; their extremities are smaller, and the hair, especially in the women, longer and finer. They are generally darker than the Amharas. The

Tigré dialect has still more connexion with Geez than the Amhara.

The people of *Lasta* seem to combine the best points of the two first. Their forehead is wide and high, the eye large and bright, the nose straight, and the lips small; and although they are somewhat below the middle height, they are remarkably well made, and notorious for their strength and agility. They generally speak the Tigré dialect.

The people of *Shoa* are, as a rule, darker, and of a higher stature than the Amharas; otherwise in their personal appearance they present no marked difference, and speak the same language, only replacing the clacking *k* by a *g*. In Tigré, in *Shoa*, but even more so in *Begemder* and in *Gondar*, a large portion of the population belongs to the religion of Mohammed; and though they differ in no way in other respects from the Christian populations we have just described, they are not included in the term *Amhara*, or of *people of Tigré*, etc., but whatever may be the province they inhabit, they come under the common designation of *Islams*.

The four great divisions of the Abyssinian people differ still further in a few unimportant points. Thus, in their dress, the trousers worn by the people of Tigré, are shorter and tighter than those of the other Abyssinians. Their buildings are generally made of stone and mud, flat roofed, and square; whilst everywhere else the circular form and thatched roof is adopted, both for churches and buildings. The people of *Shoa* do not wear the red-striped shama, but a better woven border of many colours. Their spears are smaller, and their swords shorter and less curved than those of the Amharas.

Of all the separate tribes the *Falashas* are the most important. They are found in large numbers in *Wolkait*, *Waggara*, *Armachao*, and *Koura*. Whether we admit or not that *Makeda*, an Abyssinian queen, contemporary of Solomon, was the queen of *Sheba* or not, and that, on her supposed return to Abyssinia with her son *Menilek*, the offspring of Solomon, she was really accompanied by a large number of the people of the country she had visited: the fact, nevertheless, remains, that the *Falashas* are Jews. To this day they have retained many of the customs of their race, observe the sabbath, and are very particular concerning their food, and other observances of the Mosaic law. They carry even these prejudices to such an extent that, though not remarkable for cleanliness, they will not, from fear of pollution, enter the Christian's abode; but should accident bring them in contact with the impure Christian, they at once return to their homes, and cast off the raiment contaminated by the Amhara's touch. In appearance they retain

also, the features of the Jewish race. It is said that they are ignorant of Hebrew, and speak a dialect having no connexion with that language, or with any of those of Abyssinia. In some respects they contrast favourably with the lazy Abyssinians. Skilled in the potter's art and good masons, they form almost exclusively the industrious portion of the community; and though frequently sorely oppressed and persecuted, they are, nevertheless, still a numerous and wealthy though despised class.

The *Kamawnts* are a peculiar people, inhabiting more especially the province of Tschelga, situate at the north-west extremity of Lake Tana. In appearance they have much in common with the Felashas, so that it is not improbable that the popular opinion as to their being originally of the same tribe, is correct. Theodore had told them to become Christians; that was enough to silence all their prejudices, and outwardly they accepted to be received as members of the church, were baptised, and partook of the communion. But no sooner did they feel themselves, through his weakness, strong enough to resist his commands, than they returned to their former creed. Saturday is also their sabbath; and though less fanatical and bigoted than the Abyssinian Jew, still they would rather die of hunger than eat of the cow killed by a Christian. Although they have a sacred language of their own, they usually speak the Amharic. When we passed through Tschelga, on our way to Theodore's camp, we saw one of their places of worship. A beautiful thickly foliated grove, so dense that not even the rays of the sun could witness their religious ceremonies. What these consist of it is impossible to say; few are initiated; their elders and priests are alone allowed to be present at the most sacred mysteries. It seems, however, from what is known of their worship, that their creed is a mixture of paganism and Judaism. They adore God under the name of Këbër, "the Glory", acknowledge some of the books of the Old Testament, and at the same time have a strange reverence for the cactus, and other plants. As a rule, they are poor, and used formerly to gain their livelihood by supplying Gondar with firewood. They are a quiet and inoffensive people; but so brave and resolute in the defence of their homesteads and sanctuaries, that they are but seldom molested by their crafty but cowardly neighbours. Their dress is the same as that of the Amharas, only both men and women wear earrings; the first, small gold or silver ones; the women, heavy pieces of lead or wood, in order to lengthen the ear. Both the Felashas and the Kamawnts do not wear the mahtab,—the string of blue silk worn round the neck by all those who make profession of Christianity in Abyssinia.

The *Agavs* are a tribe of Galla origin. The date of their appearance in Abyssinia is unknown, but must have been at a very remote period, as the two sections of the tribe—one inhabiting at the south of Lake Tana, the other to the westward of Lasta—have lost much of their uniformity of language, and though doubtless of the same race, could not, if reunited at the present day, be able to understand one another. In personal appearance, the difference is less marked; they are both fairer than the Amharas; their features are bold and handsome; rather under the middle height; they are well knit, and remarkable as well on account of the delicacy of their hands and feet, as for the fine texture of the hair, of a better quality and longer than that of the Amhara, quite equal to that of the Wallo-Gallas. The Agavs of Lasta inhabit small villages, perched almost to the summit of those high mountain ranges; they are poor; and live almost exclusively on the milk and flesh of their herds of goats. Bred to hardship and sobriety, they have justly acquired a reputation for endurance and bravery, and are much esteemed as soldiers. Agav Medar (the land of the Agavs), bordering on Damot, is one of the finest provinces of Abyssinia. These Agavs form a wealthy and powerful tribe. When we passed through their country, their hospitality knew no bounds; and their amiable and courteous manners, their pleasing, smiling faces, I still remember with pleasure. The Agavs wear the mahtab. Churches arise near their villages, and priests dwell among them for all that are not looked upon as Christians by the Amharas on account of some prejudice or the other. They are brave, and if invaded, fight to the last. Theodore knew that, and always left them alone.

The *Zalans* are a pastoral people, met within Central Abyssinia, especially in Demhea; they are more a caste than a separate tribe. Their occupation is most likely the cause of this separation, as the mere fact of doing something, be it merely keeping cattle, is sufficient in the eyes of the lazy and vain-glorious Amhara, to deprive them of all consideration and respect. The Zalans live in small villages, often composed of only one family, and aware that they are despised, keep aloof from everyone. To this isolation and want of intercourse, is probably due their uncouth appearance and rather coarse manners. They are noted for their skill in the use of the stick,—such a powerful weapon in their hands, that several Amharas, armed with spear and shield, will certainly not attempt to plunder the cattle protected by the strong arm of a Zalan.

The *Waitos* are a small tribe inhabiting the shores of Lake Tana. Their appearance is not very prepossessing, and to

that, probably, as much as to their predilection for the unclean hippopotamus, can we account for the ban in which they are held. They are small in stature, the face large in proportion to the head, their extremities large, and the limbs too long for their size, their hair is short and woolly, and they would bear much resemblance to the Shankalas were it not for the fairness of their skin, their straight nose, and moderate-sized lips. They are expert fishermen, construct and man the tanquas, or bulrush canoes, that ply over the lake. They hunt the hippopotamus with a poisoned spear,—a feat replete with perils and dangers, as we had occasion to convince ourselves, whilst at Kourata, on the persons of some of our boatmen, whose bodies bore the dreadful marks of the struggle that must have taken place between the hunter and the huge infuriated animal. We found the Waitos always obliging and civil. On one occasion Mr. Rassam, having shot a hippopotamus, made it over to them, out of which fifty families fed for a week, and their joy and gratitude for this their favourite treat was, indeed, pleasing to witness. The Waitos are most of them Mussulmans; a few only wear the mahtab:

The *Figens* are a border tribe beyond Agaw Medar, and to the south of Lake Tana. Much is said about their cruelty and powers of incantation. They inhabit a well wooded country, abounding in elephants, and their principal occupation consists in hunting those large quadrupeds. Twice a-year they bring the ivory to the markets of Agaw Medar and Godjam. For a long time they were prohibited from entering that province, or to proceed to Gondar, as their arrival was always followed by numerous demoniacal visitations.

The *Wallo-Gallas*, a large, wealthy, and powerful tribe, inhabit the fine plateau that extends from the Bechelo to Shoa. As I have given a detailed account of them elsewhere,* it suffices to say that, originally from equatorial Africa, they made their first appearance in Abyssinia towards the middle of the sixteenth century. They not only subdued and occupied the fairest provinces, their present country, but often carried their victorious arms to Gondar and Tigré, and imposed their rule on many Christian emperors up to the time of Theodore's reign. They are a brave, handsome race; and now that their great enemy is no more, they bid fair, should they—burying in oblivion all internal rivalries and petty jealousies—once more unite, to overrun Abyssinia, and impose on the debauched and sensual Christians of that country the false creed of the Koran.

* *A Narrative of Captivity in Abyssinia, with some account of Theodore, his People, and Country.* Smith, Elder, and Co., Cornhill.

Such are, then, the several tribes and classes that constitute the Abyssinian race. Taken as a whole, with the exception of the oppressed and hard-working peasants, there is nothing in them to praise or extol. Beggars infest the land; the priests are ignorant and bigoted; the soldiers, the curse of the country. Abyssinians, I regret to say, are cowardly, adepts at low treachery, lazy, pretentious, and pompous. Naturally drunkards and gluttons, they are only abstemious by necessity, and their festivals are but low and coarse orgies. They have no literature, no means of recreation. Their conversation is a revolting incoherent talk, partly blasphemous, partly lascivious, and when they favoured us with their society, always ending in requests for favours. When we state that cleanliness is a shame, debauchery no disgrace, robbery, treachery, and murder glorious deeds, we have summed up the qualifications most prized by that degraded race; and if their timorous nature made them recoil before the daring act of murdering the white men, their guests, they enjoyed, at least for a while, the idea of their importance, and swaggered, full of pride, before the few helpless individuals their king detained in captivity and in chains!

XXVII.—*On the Discovery of Cromlechs in Southern India.*
By R. A. COLE (*official papers, communicated*).

[*Read November 10th, 1868.*]

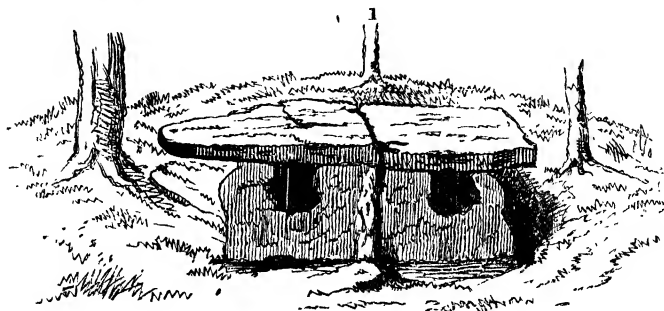
Coorg, March 4th, 1868.

I HAVE the honour to report the discovery of a large number of cromlechs, on some baué, or grass-lands, about a mile to the west of the town of Veerajapett, in South Coorg. The discovery was made by my assistant, Lieut. J. S. F. Mackenzie, in January last, in the following manner. A quantity of stones was required for certain bridges, and other works, in Veerajendrapett, and one of the native merchants offered to get the stones, if Mr. Mackenzie would allow him to remove them from the baué in question. Mr. Mackenzie inspected the locality, and found the remains of a great number of cromlechs, the stones of which had evidently been split up, and removed at different periods by the Wudders, a tribe of stone-hewers. The baué in question is much grown over with low brushwood, and, on pushing further on, Mr. Mackenzie hit upon a few large double cromlechs. On communicating this most interesting archæological discovery to me, I at once forbade the removal of any more stones from the locality, and directed the scrubwood and earth around the cromlechs to be removed, so as to lay bare the whole structure to its base.

Lieutenant W. Freeth, the Assistant-Superintendent of the Revenue Survey, then kindly undertook to make drawings and plans of this double cromlech, and of two others; and I have now the pleasure of forwarding, for submission to his Excellency the Viceroy and Governor-General of India, three coloured drawings of these cromlechs, as also twenty copies and plans of the same, lithographed at the Mercara Sudder Jail Press, from drawings by Mr. Freeth.

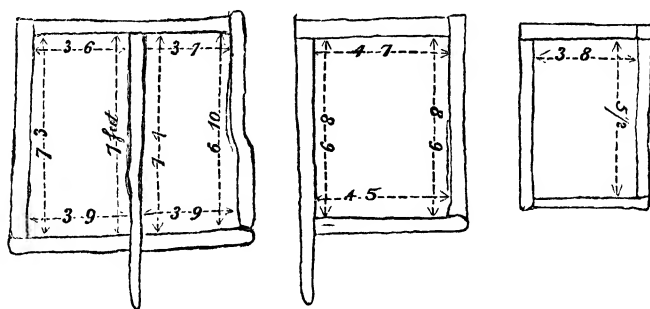
The double cromlech (No. 1) is formed by six large unhewn stones, surmounted by one large flat stone, thirteen feet long by nine feet nine inches broad, and about seven or eight inches thick. This top stone had been, apparently not long ago, chiselled, and split open right across the centre, from each side, so as to form four blocks, but most fortunately had not been removed, except a small piece at the back and to the left looking at the cromlech. The back was also formed by one large slab, as also each side. The front slabs were smaller, and divided by the large centre slab, which formed the enclosure into two compartments. These front stones have each a peculiar aperture, of an irregular segmental form, about one foot

eleven inches by four inches, at the top, and immediately below



Double Cromlech.

the superincumbent stone. The stones at these apertures are sharp on the inside, and present a bevelled appearance outside. The inner rim is so sharp as to lead to the conclusion that these apertures could not have been used for ingress and egress. The centre stone projects to the front two feet eight inches, and the top flag projects over the left compartment to such an extent as to afford shelter, like a verandah. This was, doubtless, accidental; but it is a curious fact that this shelter is so afforded on the side away from exposure to the monsoons, which now prevail. The interior measurements of the compartments are also given in the plans, by which it will be seen

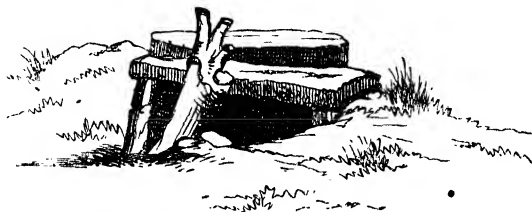


Plans of the Cromlechs,

that each compartment was about seven feet long, three feet nine inches broad, and four feet high,—each compartment was flagged by a large stone in each; these compartments were nearly full of earth, but nothing was found in them. Dr. Shortt, of Madras, who has opened many cairns on the Nilgiris, and other parts of the Madras Presidency, informed me that he had never seen or heard of a double cromlech of this description. This would add to the value of the present discovery.

No. 2 is a sample of a single cromlech, similarly constructed, of large unhewn and uncemented slabs of granite. It is six feet

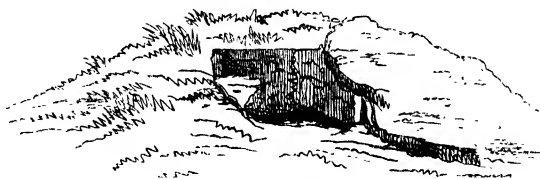
2



The second Cromlech.

eight inches long by four feet and a half broad and four feet high, interior measurement. The top stone had been broken and partly removed, and the stem of a very old tree was found growing out of it. Nothing was found in this cromlech.

No. 3 is a still smaller cromlech, found on another baué, about half-a-mile from the others. On this baué are to be found many large tumuli, which apparently contain many of these cromlechs. The front stone of No. 3 was just visible at the end of one of these tumuli, and I caused the earth above and around it to be cleared away, and the top stone was raised and



The smallest Cromlech.

made to slip over on one side. It was full of earth, in which we found fragments of earthen pottery, and small pieces of charcoal.

At the end of another tumulus, another cromlech was dug out, but we found the top stone had been removed, apparently very many years ago. In this also were found fragments of earthen vessels and pieces of charcoal, and also a small piece of a bangle. This bangle is much thicker than those in use at the present day, and the devices on it are in pale yellow, and somewhat similar in form to those generally to be found in the modern imitation Etruscan vases, goglets, etc. I showed this bangle to all the native merchants at Veerajapett, who declared that they had never seen one of such a description before. This bangle and fragments of earthen vessels were

sent in to the Commissioners, and are now in the museum at Bangalore, but I beg to suggest that they should be sent on to the Government with this report. The bangle is evidently of no modern date; but as the top stone of this cromlech had been removed, and Wuddurs had evidently been at work in the locality during the past fifty to one hundred years, it is possible that the bangle had once belonged to some dusky beauty of that tribe. It was found, also, only about a foot and a half below the surface of the mound, and just within the stone cist.

I have failed to discover any of those concentric rows of upright stones which have generally been found with such cromlechs elsewhere; but the fact of the Wuddurs having been so long at work in these localities, would account for the disappearance of these stones, which were probably first discovered and removed. It is worthy of note that these structures all face east and west. Very few of these cromlechs would appear to have had the segmental apertures found in the double cromlech; and, in fact, most of those now visible are much smaller, and would appear to be more like those short stone cists containing cinerary urns which have generally been found in the sepulchral mounds, both in Asia and in Europe, and even in Central America. As remarked before by me, these *baués* abound with such tumuli, some of which have evidently not been touched. It is in such alone that we may expect to find still more interesting relics of this almost unknown past period of the history of the world and of our species, and I would earnestly request permission to push on these excavations. Some of these tumuli would appear to run parallel to each other, so that when uncovered, these stone chambers would present the appearance of streets. The discovery of pieces of charcoal, and fragments of apparently cinerary urns, would tend to show that the conclusions drawn by modern archæologists are correct, viz., that these stone chambers were only used in sepulchral monuments. But my assistant, Mr. Mackenzie, has suggested, that it is an extraordinary fact that, when such durable and lasting monuments to the dead are to be found, no remains of the dwellings of those ancient Aryan races are visible in the same localities, so as to throw still greater light on the ethnical records of the past. Is it possible that these larger cromlechs forming regular well closed chambers, unlike those found elsewhere, were the dwellings, and the smaller stone cists and tumuli, the sepulchral monuments of these almost hypothetical races?

In conclusion, I beg to state that similar cromlechs and monoliths are said to exist in Kiggutnad, in South Coorg, and

also near Fraserpett, in East Coorg, in the borders of Mysore, regarding which I would propose to submit a separate report hereafter, soliciting the Commissioner's sanction to an expenditure of 200 or 300 rupees in making further excavations.

From the Superintendent of Coorg to the Secretary to the Commission for the affairs of Coorg, Bangalore.

Coorg, 22nd May, 1868.

SIR,—In continuation of my letter, No. 3301, of the 4th March last, I have the honour to report that, in accordance with the instructions of the Commissioner, I have caused eleven of the cromlechs, lately discovered in the vicinity of Veerajenderpett, to be excavated, and beg to submit the results of the explorations made by myself and my assistant, Lieutenant J. S. F. Mackenzie.

The parallel barrows, or mounds of earth, alluded to in my former report, though containing one or two cromlechs, were found not to cover continuous rows of these structures; but the cromlechs now excavated were situated below large mounds, and covered over with trees and dense brushwood, showing that they had not been touched by the hand of man for ages past. These structures consisted, like the others reported upon, of oblong chambers, the bottom and sides composed of large single slabs of unhewn granite, and surmounted by a large slab of the same description. The longest chamber was $7\frac{1}{2}$ feet long, by $4\frac{1}{4}$ feet broad, and 5 feet deep. The several dimensions were as follows:—

No.	Length.			Breadth.			Depth.	
	Ft.	in.		Ft.	in.		Ft.	in.
1.	6	4	.....	3	8	.....	3	8
2.	$6\frac{1}{2}$		.....	4	0	.....	4	0
3.	$7\frac{1}{2}$		.....	$4\frac{1}{4}$		.....	5	0
4.	$6\frac{3}{4}$		.....	3	4	.....	$2\frac{1}{2}$	
5.	$5\frac{1}{2}$		.....	3	3	.....	$3\frac{1}{2}$	
6.	5	5	.....	4	0	.....	$3\frac{1}{2}$	
7.	6	0	.....	3	3	.....	3	3
8.	6	0	.....	3	0	.....	3	0
9.	7	0	.....	3	0	.....	4	0
10.	6	3	.....	$3\frac{3}{4}$		.....	$3\frac{1}{2}$	
11.	5	0	.....	$3\frac{1}{4}$		.....	4	0

3. All these cromlechs had square or segmental apertures, which the natives always point out as a proof that these structures used to form the abodes of the pygmy race, described in their legends. Some have supposed that these apertures were made use of for the purpose of introducing the cinerary urns and bones of the members of the family into the sepulchral vault, as they died one after the other. I am inclined to this belief, as the urns were invariably discovered in each corner, and

often piled one upon the other, and these openings are always at the top of the front slab, and immediately below the superincumbent slab. These doors, or apertures, were generally found to face towards the east; but strange to say, one was found facing to the north, and a few to the west. They were $1\frac{1}{2}$, $1\frac{3}{4}$, and 2 feet wide.

I am glad to be able to state, that the excavations resulted in the discovery of several antique-shaped urns and pots, composed of thick, red and black pottery, apparently highly glazed; some are on four feet, and some are tripods. Lieut. W. Freeth, the Assistant-Superintendent of the Revenue Survey, has kindly sketched and lithographed a group of these urns, and his



Pottery from the Cromlechs.

lithograph copies attached will convey a better description of these antique vessels than any words of mine can do. They are all full of hard earth, apparently rammed in by the rainfall of successive monsoons. I had some of the damaged vessels broken up, and the contents carefully sifted, but could not discover any traces of bones, whether calcined or not. This would lead to the belief that these vessels had not been used as cinerary urns. The small fragments of charcoal were generally found in the earth, inside the cromlechs and smaller cists. Some pieces of iron weapons were also found in these cromlechs, the larger of which appears to have been a spear or large javelin, and the others, arrows and hilts of daggers.

There were no concentric rows of stones round these cromlechs, as generally found elsewhere; but I found that the cromlechs at Fraserpett had distinctly such rows of upright stones round each. These look as if they had been tampered with, though not for many years past; but I will cause them to be carefully excavated next month, and will submit a separate report on the results. I have, etc., etc.

(Signed)

R. A. COLE, Superintendent.

(True Copy.)

XXVIII.—*On the Khasia Tribe.* By Lieut. E. H. STEEL, R.A.

[Read November 10th, 1868.]

SEPARATING the plains of Eastern Bengal from the valley of Assam, lies the hill-range commonly called the Khasia Hills, but, in reality, peopled by several tribes. The Khasias are the best known from our having two hill-stations among them, and, though not the largest tribe by any means, are, from their contact with us, the most civilised; they number about 70,000. Their neighbours are the Garrows to the west, and the Jynteahs and various Naga tribes to the east. The Khasia Hills are exceedingly remarkable from many causes, and their inhabitants are no less so.

The mountain-range at Cherrapoongie (which is a British cantonment and a large native village) attains an elevation of some 4,000 feet, and as the rise is exceedingly abrupt, the hillside consequently forms a gigantic natural wall, against which the vapour-laden south-west monsoon strikes during the monsoon months, from May to October. This produces an immense rainfall, amounting in some years to as much as six hundred inches: in July 1865, two hundred and eighteen inches of rain fell. This immense amount of water falls only over a very small tract, some twelve miles broad; for at Silhet, twenty-nine miles from the foot of the hill southward, the rainfall is one hundred and fifty inches: and at Shillong, twenty miles in the interior of the hills, and 5,300 feet above the level of the sea, the fall is only eighty inches. This enormous deluge of water rushes down into the southern plains over the side of the hill, forming many magnificent waterfalls, those of Mausmai being 1,800 feet high, about 1,100 a series of falls from ledge to ledge, and 670 feet at the bottom, one single leap. In the cold season, these are nearly dry, but during the rains they are an immense sheet of water, though only the drainage of the Cherra plateau, some eight square miles, goes to form them; but where the rainfall is 1·5 inch in thirty-five minutes, the volume of water can hardly be imagined, much less measured. The action of water is here seen exceedingly clearly: immense valleys, as the Temshung, 3,000 feet deep, have been formed by its agency alone. The hills are all rounded by its action, and the bare rock crops up everywhere, the soil having been

washed away. The rock is principally sandstone, and in many places above it lies mountain-limestone, with coal. The limestone is fissured, and worn into caves in many places by the action of water; some of the caves are of great length,—to these I hope to advert hereafter. The rainy season sets in at the latter end of May, and lasts till the end of September; the climate during October and November, at Cherrapoongie, will stand comparison with that of any other part of the world. The usual rain falls about Christmas for a few days, when the sky becomes very cloudy; but on this clearing off, the fine weather, with a strong north-westerly wind, continues during February and March. The weather begins to be showery in April; but it is not, as I said before, until May that the deluge begins. The temperature during the rains never rises above 73° or 74°, unless during a break in the rain, when it goes up to 86° Fahr. During the cold weather, in the interior of the hills, water often freezes: I have several times found ice in my basin, which had been left out all night, half-an-inch in thickness, but this is only in the interior, and above the 5,000 feet line. To the northward lies the valley of Assam, through which the Bramahputra flows. A glance at the map will show more clearly, than I can describe it, the peninsular form of the whole range, how it juts out from China into the plains.

With regard to the inhabitants (the Khasias, of whom I am now speaking), they differ in race, language, religion, and everything else, from the Bengalis of Silhet, on the one hand; and the tribes of the valley of Assam, on the other side. They are of a Mongol cast of countenance, fair skinned, with straight black hair, scant moustache, and with no beard or whisker, and about 5 feet 4 ins. in average height. Their language, of which I have a small vocabulary, is only spoken; it differs radically, I believe, from Sanskrit. The utterance of the people is clear and distinct, even though they are great pân-eaters; and they call to one another, long distances, from hill-top to hill-top, the cry they use to call attention being, I am told, somewhat similar to that used by the aborigines in Australia. All the foreign articles which are brought into the hills are called by their Hindustani names, it is almost needless to mention; for many articles which are common as the ordinary necessities of life among us, were unknown in the hills before our occupancy. The language is poor in expression, and, I should think, incapable of being used for philosophic discussion, or any of the higher uses of language. Of their religion I can say but little, for there is but little to speak of. I think that they, as a rule, have a greater fear of evil spirits than love or reverence for good ones; but from all I could see, they did not care much for

either. Nevertheless, with all their want of religion, they have an innate regard for the truth, and can appreciate honest and upright dealing in others; in this, as in many other things, they are in advance of the far more civilised Hindoo. Khasias are superstitious and believe in omens; and they have a curious custom of breaking eggs on a board, and in the disposition of the various pieces of shell and of the yolk of the egg, they pretend to find indications for future guidance.

The dress of the men is very simple, consisting of a small waist-cloth, and a garment over it, similar to the smock frock worn by the English peasantry, only it has no sleeves, or very short ones; it comes half down to the knee, where it is fringed, and is made of cotton; the legs and arms are bare. On the head is worn a high skull-cap of black cloth, in the form of a truncated cone; but the more civilised of the tribe, are fast adopting Bengali dhoties and chupkuns, with the turban. They are, as well as the women, extremely fond of ornaments; earrings and necklaces of gold being worn by all who can afford them. The women are fond of dress. They are generally smaller than the men, also fairer. Their dress is of native silk, consisting of one long piece, red, yellow, or black (of which I have two specimens); this is knotted at the shoulder in a peculiar manner, and goes over a jacket made either of velvet or cloth; over all is a striped cloak, made of a mixture of silk and cotton, of which I have a specimen, though now much worn. They wear no head-dress, the hair being tied in knot at the back; the legs and feet are bare from the knee, the dress descending so far. They wear earrings and necklaces of gold, the latter mixed with coral, which they prize very highly; they also wear bracelets of silver, weighing five or six ounces each, but never anklets, like the Hindoos. They carry loads, and assist in tilling the rice-fields, fetch wood, carry water, and look after the house generally.

Their houses, in places where wood is abundant, are made entirely of wood, and most substantially built, and thatched either with grass or with the leaves of the cane, which grows in plenty in the lower hills. A Khasia house is made as follows:—large solid trees are cut for posts, for the corners and doorways, and for the support of the roof when required; the spaces between the posts are filled in with boards, placed horizontally. The houses in many cases are divided into three or four rooms,—an outer room for general purposes, and the others as sleeping or store apartments; some, however, are made into one large room only, with a slight partition for the sleeping places. The hearth is built on the ground; three little pillars of mud, a foot high, support the cooking-pot, and wood

is put as firing beneath. In houses floored with wood, a regular square hearth is made, three feet, or so, square; over the hearth is a frame, some five feet above the fire, suspended from the roof, and in this the coverings used as umbrellas are placed; they intercept the sparks, which would otherwise set fire to the roof. In other places, where stone is near at hand, the houses are built of it, and to each house there is generally a little courtyard; in no case are two houses built together, each one generally standing in a little piece of ground by itself. I have never seen any cave-dwellings, nor have I heard of any. The caves are supposed generally to be inhabited by evil spirits. We visited, whilst I was at Cherra, two caves; they were formed by the action of water (this was the opinion of Capt. Godwin Austen); one of them was of great length, and we took two hours reaching the end; a stream of water flowed through it, and in one place there was a pool, but in it no fish of any sort. I found no traces of man or of animals,—but mine was only a cursory examination. The floor seemed to be solid limestone, but it might have been merely an accumulation of stalagmites. As with all savage people I have ever seen, the doorways to their houses are generally of less height than an average man's stature.

With regard to their customs, some are very peculiar; the whole village, for instance, congregate and assist at a birth. The marriage ceremony is very simple. The couple about to be married merely sit together in one seat, and receive their friends, to whom they give a dinner or feast. The marriage tie is easily dissolved. The husband gives the woman five cowries (the small shells in use as currency in India), and the woman throws them away; they are then free to be married again, the children remaining with the mother. This dissolution of the marriage tie is, however, rare, and, unless for some grave fault on the one side or the other, is rarely resorted to. It is needless to say that wife-beating is unknown, and seems to me to be more a token of civilised than of savage life. In the case of twins being born, one used frequently to be killed: it is considered unlucky, and also degrading, to have twins, as they consider that it assimilates them with the lower animals. The house belongs to the woman; and, in case of the husband dying or being separated from her, it remains her property. The word in Khasia for a tree and a house are almost the same, the one being “iing” and the other “ing”; also fire and wood are almost the same, one being “ding”, the other “diing”. This is very remarkable, I believe, and of great interest, I should think, to philologists. The dead are burned, not buried. The body, with a quantity of wood, is placed in a square box, built upon the ground with boarding, some seven feet high; any spot

seems to be selected. The funeral pyre, thus composed, is set fire to, and the body consumed to ashes: the relations howl, and show other savage signs of grief. In no case is a body buried.

In the month of March, at the new moon, they have grand dances, and at these dances many matches are made. It is customary for unmarried girls only to dance. They assemble in certain places, where a ring is formed, the girls standing two and two in the centre, facing outwards, in no particular order; they then move slowly round from left to right, the whole mass of them in twos, with a sidling step, such as soldiers make in "closing" right or left, with eyes fixed on the ground. The young bachelors run round the outside of the ring, waving fans made of feathers; outside them again comes the ring of spectators, old married men and women, with children too young to be married. Rude music is played the whole time, and the spirit of the proceedings is kept up by frequent and deep potations on the part of the male dancers and musicians. The whole is of an orderly character, and never degenerates into an orgie. The demure looks of the girls, some pretty enough, and the ardent glances of the youths as they pass round and peep slyly at their lovers, is amusing enough, and makes a pretty picture. The dress of the girl is of silk throughout, and the ornaments of gold and coral, all but the crown, feather, and bracelets, which are of silver.

Some of the men, and also women, are possessed of great strength, being perfect marvels of muscular development, the feet and legs being exceedingly well formed. They carry their loads on their backs, a strap passing round the load and over their forehead. They carry grain in baskets of split cane, very neatly worked, of a conical form, the apex of the cone, as the basket is carried, pointing downwards. In the eastern hills, among the Jynteahs, who are closely allied to the Khasias, the baskets are made of all shapes, and lined exceedingly neatly with india-rubber, for the purpose of holding water. Some tribes make their baskets square at the foot, so that they stand upright; but the Khasias, I know not why, never do so. The Jynteah water-baskets are all square at the bottom. The cacanoop, which is used as an umbrella, is made of bamboo-leaves, and covered with a very fine network of bamboo, and bound round the edges. A flat cover is also used, of the same description, to protect the basket from rain, another being carried in between the back and the point of the basket. When carrying a basket, they do not use the shell-like cacanoop, but merely these shield-like pieces.

Khasias are great pân-eaters ; the ingredients—in a killie or chew of pân—being the pân-leaf, betel-nut, and lime ; the natives carry it in a bag made of rhea-grass, the lime in a metal, and the leaf in a bamboo-box. They chew this mixture to excess ; it is a great stimulant, and enlarges the lips, and altogether deforms the mouth.

The Khasias raise monuments to their dead ; these are generally put up in conspicuous places, the top of a hill, or near to some village or wood. They are of a singular form and appearance, being composed of large upright stones, set close together. Their number varies, but it is generally uneven ; the centre stone is the tallest, and the size of the stones decreases on each side of it, the outside ones being the "smallest." In front of most of these monuments are placed smaller flat stones, supported on small uprights, some two feet and a-half or three feet above the ground : these look like seats, and are in fact used as such by wayfarers, when the monuments are at the side of the road. I believe they contain, when first raised, the ashes of the dead ; but this I cannot be sure of, as I never found any,—this may be owing to the rain washing them away. In some places, square tombs are made of stone, without any upright stones at all near them ; some of them are of immense size, others small,—in all cases the sides and roof are of single stones ; these have undoubtedly contained ashes. In all cases the stones are set up in a straight line, and are never placed in a circle, that I have seen anywhere in the hills. The uprights are carefully cut in the later monuments, but in the older ones the stones seem very roughly hewn. They are made of the prevailing stones of the country, sandstone in the southern and granite in the northern hills. The granite stones are very rough, and entirely unmarked with chisel. In some of the monuments, the central stone is surmounted by a corona,—but this construction is rare. When marching in the hills once, I saw a stone bridge made over a stream, near the village of Umwai ; it was very remarkable for the immense size of the central stone, which was 26 feet long by 4 feet wide and $2\frac{1}{2}$ feet thick. It was placed on two uprights some eight feet high, in the bed of the stream, and the roadway was continued to the bank on either side by two smaller blocks, each some ten or twelve feet long : how it got there I know not. We imagined it had been carried there, and rolled up an inclined plane in the dry season. I saw many smaller bridges made there, but none nearly as large as this. My servant, a most intelligent Khasia, once asked my leave to go and help erect a stone as a monument to one of his relatives.

He told me the stone was carried to the place, and then hauled into an upright position by ropes. They only placed one stone, and no more. This makes me think that the monument, when finished, is to more than one of the members of a family; and this accounts for the different number of stones in different monuments. In some places a hillside is literally covered with them. The largest I have seen are at the village of Morphlong; they are about 18 feet high and 4 feet broad at base, and 18 inches thick. They are of old date, as they show no marks like the more modern ones, of chisel and hammer.

The Khasias grow, in their villages, considerable crops of rice, and show some skill in irrigating them. The embankments at Mokesa, in the western hills, are of considerable size, and the water is conducted from field to field in a most skillful manner, and the levels are very true. They grow several other grain crops,—murrowa, from which a spirit is made, and others, of which I do not know the names. They do not plough the fields, but hoe them. The hoes are made in the hills, and are sold to the people of the plains on the northern side, being often used in place of money. In these hills are found coal, iron, and limestone, all of superior quality; but the inhabitants do not use the first, always burning wood. They only burn the limestone at Cherra in small quantities, and the iron is very rudely worked indeed. When travelling in the hills, some two years ago, I came across, at a place called Nongspon, some Khasia iron-works, which I carefully examined. The ore used was a magnetic iron-sand, which was dug out of the hillside, and washed by women in a trough, through which a stream of water flowed. The sand was then taken, and a certain quantity of it put into a receptacle formed in the floor of a hut; over this was heaped charcoal, and the “charge” worked by bellows of a most peculiar construction, worked by men and women, two at a time. No flux is used; the iron is simply fused into a mass, and stirred constantly with a bar of iron: the manufacture is of the coarsest, and the iron thus made exceedingly impure. We made out that, at this work, the smelters earned two shillings a day. The pig of iron is not worked up in the place it is manufactured in, but taken to other villages for that purpose. The hammer and anvil are very peculiar, and of small size; the bellows are of the same description as those used for smelting, but placed horizontally, and, being smaller, are worked by hand; their anvils are of stone,—those I saw were of greenstone. From this iron they make their hoes, and swords, and arrow-points; they are all

exceedingly soft and bend easily, though they are, of course, easily ground to an edge or point.

Khasias are, as a rule, courageous, and fight well behind stockades, when their wretched weapons are taken into account. Their stockades are beautifully made, and of great strength,—made of tree-trunks, upright, and tied together with cane; they plant the ground in front with spokes of bamboo, six inches long, hardened in the fire, and also strengthen their position by digging deep pitfalls, which they fill with spikes.

They are great eaters of dried fish; and I was once invited to a grand Khasia fishing in one of the streams at the foot of the hills: their method was as follows. At one of the rapids above, an immensely deep pool, full of large fish, they built a dam of stones, and at intervals, on this, placed baskets of cane filled with *cocculus indicus*,—the fruit is about the size of a walnut: of this they pounded an immense quantity, and let the water carry the juice into the pool. The fish became stupefied in about five hours, and, rising to the surface, were swept down the stream into large receptacles formed of stones; next morning they were taken away up the hill to be dried, to the amount of 600 maunds, or more than twenty tons. About two hundred men were engaged in this work.

In this account of the Khasias, I have not spoken of the trade in lime and oranges that is carried on, for this is not a native industry; the trade in them was begun by Europeans, and is now carried on, by European agents, with native workmen and coolies.

XXIX.—*The Tehuelche Indians of Patagonia.* By THOMAS J. HUTCHINSON, F.R.G.S., F.R.S.L., F.E.S., F.A.S.L., Vice-President d'honneur de l'Institut d'Afrique, Paris; Socio Estrangero de la Sociedad Paleontologica, Buenos Ayres, etc., etc., etc., H.B.M.'s Consul at Rosario.

[Read November 24th, 1868.]

WITH this paper is exhibited a photographic sketch of six Indians, of the Tehuelche tribe, from Patagonia, whom I saw at Buenos Ayres on a recent visit to that city. They were accompanied by Mr. Louis Jones, whose portrait is in the centre of the group, and who is Manager of the Welsh Colony at Chupat. Their names are—of the three standing up, and counting from the left side—Kilcham, who is the most famous of hunters, Yeloulk, and Weasel; those seated (from the left side of picture, in like manner), Francisco (the cacique), Kitchkskum, and Waisho.

In such a short conference as I had with them, it was impossible to discover much of their manners and customs. I saw, however, at the first glance, a remarkable difference in their manly bearing, as well as physical development, from the Mocovis,* seen by me last year at Corrientes, and of whom I sent home a photographic sketch to Dr. Hunt, President of the Anthropological Society. The bulk of body in the cacique, Francisco, and the hunter, Kilcham, was, to say the least, prodigious, but not at all of that gigantic stature which we have been taught to associate with the name of Patagonian. Their features expressed no vivacity nor intelligence, but withal a sort of passive contentment. They had large prominent foreheads, with a breadth between the shoulders, and an expansion of chest (more particularly Kilcham), that would make one imagine there might have been a Hercules in Patagonia. Nothing that they saw in Buenos Ayres elicited any appearance of surprise, notwithstanding that from the azotea (or housetop), where I met them, they could see hundreds of ships in the

* These are entitled Mocobis by De Azara (*Descripcion de Paraguay*, vol. i, p. 241), whereas D'Orbigny, in his *L'Homme Americain*, vol. ii, p. 93, entitled them Mbocobis, and makes them to be synonymous with the Tobas. Now these two latter names are generally considered to be of two entirely different tribes,—different in place, residence, in manners, in life, in language,—in fact, in everything.

harbour,—the bustle at the custom-house close by,—the constant coming in and going out of railway carriages on the tramway, which was almost under where we stood,—the life and motion of omnibuses, coaches, as well as people about; still, they looked at them all with the most perfect stolidity,—the same impassiveness, Mr. Jones tells me, with which they parted from their families, to make a long ocean voyage, several months ago.

Their sole clothing was a mantle, made of Guanaco-skins, sewed together, and with the hairy side in. It had no visible fastening, but, as may be seen by the way that the three men standing up wear theirs, was a most free and easy kind of garment. Their feet were small in proportion to the rest of the body, and Mr. Jones informs me that this is not the case with their women, who do all the hard work; so that when Magellan, in 1520, gave the people the title of "Patagon", which in Spanish signifies a "large clumsy foot", and when Mr. Knivet (in Cavendish's voyage), in 1592, described their feet as "four times the size of ours", these enterprising navigators must have discovered the faculty of seeing double. To me, their language, as I heard them conversing, did not sound "hard", as Alcide D'Orbigny describes it, but fell on the ear with an Italian softness.

The only present which I had about me to give them was of a few cigars, which the cacique snatched from my hand the moment that they were exhibited. A few bon-bons, offered by Mrs. Hutchinson, were grasped at with a like rudeness; but these latter they would not eat, until Mr. Jones had proved their harmlessness by tasting, as he is obliged to do with everything they eat or drink in Buenos Ayres. He tells me that this caution against the white man's comestibles proceeds from the fact that, in some remote time, a few Patagonian chiefs, who came up here, indulged so much in fire-water that they died soon after their return home, and consequently ever since it is a religious rule to be careful with what is offered them in the matter of nutriment.

On returning from this interview, I went to see my friend, Doctor Don Juan Maria Gutierrez, the President of the Buenos Ayres University, and after giving him the few details recorded here of my recent visit, he put into my hands the two volumes of Alcide D'Orbigny's work, *L'Homme Americain (de l'Amerique Meridionale)*, in which, he told me, I should find the best account of these Patagonians. In the second volume, and at p. 57, D'Orbigny thus writes of the Patagons, or Tehuelche Indians:—

"Before speaking of the tribe of Patagons, and of their

physical characters, we believe it incumbent to show that there exists a perfect analogy between the Patagons seen by Magellan at Port Julian in A.D. 1520, as well as observed by many voyagers afterwards, and those with whom we have lived during eight months in A.D. 1829, on the banks of the Rio Negro, in 41° S. Lat.; because on this fact seems to depend the clearing up of the question about giants, as they will show the exaggerations into which many ancient writers have fallen in this regard. If the truthful historian of the voyage of Magellan, the Chevalier Pigafetta, had only given, like many navigators who followed him through the Straits, a description of the manners and customs of these pretended giants, the analogy of such details with our own observations would have led us, without much trouble, to satisfactory conclusions. But this first circumnavigator has left us another means of identification, without the necessity of argument. He took on board the Admiral,* one of these extraordinary men, and after having studied him for some months, he obtained, by signs, a short vocabulary, composed particularly by names of different parts of the body. The comparison suggested by this short list of words, with the vocabulary of the Patagonian language that we have made during our residence, with the help of good interpreters speaking the Spanish language, has removed from us all doubt on the subject. We therefore feel it incumbent on us to acknowledge that the Patagons of Magellan, and those amongst whom we have made observations, are absolutely of the same nation; only that the series of words collected from signs, by Pigafetta, sometimes confound one thing with another. The following table will suffice to establish the relations sought for.†

French Words.	Patagonian words after		Observations.
	Pigafetta, in 1520.	D'Orbigny, in 1829.	
Jeune.	Calemi.	Caclem.	Veut dire <i>enfant</i> plutôt que <i>jeune</i> .
Œil.	Oter.	Guter.	
Nez.	Or.	Ho.	
Bouche.	Chian.	Ihum.	
Dent.	For.	Jor.	
Oreille.	Sané.	Jené.	Veut dire <i>dos</i> .
Derrière.	Hoi.	Hoi.	
Main.	Chéné.	Chémé.	

* No doubt the name of his ship.—T. J. H.

† "Our language (*i. e.*, the French), notwithstanding its written dictionaries, can prove how many changes have been made, within the last three

"The identity of the giants of Pigafetta with the Patagons of the Rio Negro being thus established beyond a doubt, nothing is more easy than to discern the exaggerations of an age in which ignorance and prejudice held full sway, and wherein no description was natural; moreover, nothing is easier to explain than the contradictions which were presented by details relating to the aborigines, looking at them in the same point of view (at different epochs) as they were described by voyagers, some of whom desired to speak the truth, whilst the greater number sought to perpetuate the fable of Pigafetta's giants. Whatever may be the result, in describing the Patagons as we have seen them, we shall discuss the relative truth of the various recitals, in order, if possible, to dissipate, and for ever, the clouds of credulity, ignorance, and bad faith, which up to the present hour have enveloped a question so important in the natural history of man.

"The title of Patagon, given to these people by Magellan himself, in 1520, is a Spanish word, which signifies 'big foot,'* and we think it right to retain the same, as the nation is known by it to the present day. According to Olivier de Noort,† the Fuegians speak of the Patagons under the name of Tiremenen. Trezier‡ tells us that the Chonos of Chili style them Cauchues. Bougainville§ entitles them Chaona, because he often heard them pronounce this word without knowing its meaning. Falconer,|| by frequently confounding them with neighbouring nations, calls them Tehuelhets. At Carmen, on the banks of the Rio Negro, the Spanish colonists only give them the denomination of Tehuelche—the same, doubtless, that Falconer intended to use, and which we believe to have been given to them by the Pchuelches. The Ancas, or Araucanas speak of them as Huilichi¶ (men of the south.) Finally, the Patagons themselves adopt two different nomenclatures; that of Tehuelches for those of the north, and that of Inaken for those of the south."

centuries, of words signifying the same things. After the like lapse of time, and with a people who have no written language, we should be surprised still to find so much similarity in their words. The verbs have undergone more change in the Patagonian language, than the simple names of things, during the period indicated."—D'Orbigny's note.

* In Neuman and Barreti's, *Spanish Dictionary*, the word Patagon is translated as a "large clumsy foot".

† Olivier de Noort, de Brosse, *Histoire des Navigations aux terres Australes*, t. 1er, pp. 296, 298.

‡ Trezier, *Voyage*, p. 31.

§ *Voyage autour du monde*, p. 129, et suivant.

¶ Falconer, *Description des Terres Magellaniques*, tome xi, p. 62.

¶ Idem, p. 38-62, applique mal à-propos ce nom aux Ancas.

The Patagons inhabit the territory from the Straits of Magellan to the Rio Negro, on the 40th degree of south latitude. They pass even farther north, to the Mountains of Ventana, at 39° south, and from east to west from the shore of the Atlantic Ocean to the eastern foot of the Andes—that is to say, from the 65th to the 74th degree of western longitude (Paris), but only on the plains, for they are not mountaineers, as Falconer thought;* consequently they are to be found only on the east of the Peninsula of Brunswick, in the Straits of Magellan, and at Port St. Julien, as well as on all the plains extending from the foot of the Andes to the sea.

Essentially hunters, and therefore nomadic, they wander from north to south, and from east to west, without having, so to speak, a fixed residence. Hence, the same individuals may be seen, whether at the Straits of Magellan or on the banks of the Rio Negro.† In casting the eyes over our synoptical résumé of the comparative observations made by voyagers, we are convinced that they have always met men of high stature at Port Desire, Port Saint Julien, on the margin of the ocean, in the Bay of Possession, at Cape Gregory (Strait of Magellan), and on the unwooded plains, more towards the west, which continue from those, succeeding to the Pampas.

The Patagonians are divided into a number of small tribes, dispersed into families, through the centre of the vast united plains of the south. They have always held frequent communication with the Puelches, their neighbours of the north, as well as with the Ancas, their neighbours of the west. The latter were ever ready to furnish them with horses, and it was from these that they learned the first words in Spanish, most probably picked up at the Straits from some European navigators.‡

Their intercourse with the Fuegians to the south appears to have been very rare, whilst we have seen them, on several occasions, send deputations to the north as far as Tandil, and to the Pampas of Buenos Ayres. They seem to prefer dwelling in the interior, and near rivers (where they find most game), to residing on the borders of the sea. In this they differ essentially from the Fuegians. Their population, from what we can learn of the chiefs, is seldom beyond ten thousand souls, spread

* *Terres Magellaniques*, t. xi, p. 62.

† See *Voyage dans l'Amerique Méridionale, partie Historique*, t. xi, ch. xviii, et ch. xx, for more extensive details of the Patagonian nation.

‡ The first time that the Patagonians are known to have had horses, was after the return of the unfortunate shipwrecked companions of Admiral Anson in 1740 (Wager, p. 69).

over 28,000 leagues, which leaves about three leagues to each person.*

Their colour, darker than that of the Fuegians, as well as of their neighbours to the north-east, is not bronze, but a deep olive brown. It is the peculiar colour of mulattoes, and not that which is generally attributed to the American race. But it is quite as sombre as the hue of the Chaco Indians. The only Americans who are dusker than the Patagonians are the Puelches and Charruas, but the grade of difference is not well defined.

The stature of the Patagonians occupied for a long time the attention of ancient and modern writers, to several of whom it appeared an insoluble problem. The one represented them as of diminutive height, whilst the others depicted them as giants. Some writers, more rational, supposed with truth that the nation had become mixed, whilst the defects of local geography, combined with the superficial knowledge of their territory, have still left doubts on this head. The Fuegians had been confounded with the Patagonians. Travellers such as Loaysa, Chidley, Sebato de Weert, Garcia de Nodal, L'Hermite, Degennes, Beauchêne, Gouin, Frézier, Anson, Cook, Forster, and Weddel, † who saw only the Fuegians, spoke of little men, as they had seen no others; and the greater part positively denied the existence of giants.

Another class of travellers could alone clear up the matter—that is those who saw the Fuegians and Patagonians successively. They speak of the former as men of ordinary figure, and of the latter as persons of large proportions. Of this number are Alcacoba, Drake, Sarmiento, Cavendish, Olivier, De Noort, Narborough, and Wood, Byron, Duclou, Guyot, Bougainville, Wallis, and King. These last mentioned invariably specify the places where they found the men differing in stature. It thus became evident that there were two distinct nations; and so on this basis we can establish a line of demarcation between the Fuegians and Patagonians.

According as the light of progress makes truth more evident, it appears that the chimerical height of the Patagonians is brought within natural bounds. The comparison of measurements, taken by different authors, makes this fact more apparent. In 1520, Magellan (according to Oviedo) said,—“They are from 12 to 13 hands high.” In the same year Pigafetta

* On this point see our *Voyage dans l'Amerique Méridionale, partie Historique*, t. xi, p. 97.

† Quotation from the works of each of the navigators can be seen in the *History of the Southern Nations*.

observed,—“Our heads scarcely reach up to their waists.” Sarmiento, in 1579, describes them as “Colossi of three yards” (3 metres). Knivet (Cavendish’s voyage) records them as “15 to 16 hands high, and *their feet four times the size of ours!*” Hawkins, in 1593, writes of them as “giants;” whilst in 1615 Lemaire and Schouten speak of “skeletons, which make us believe they were of men, from 10 to 11 feet in height.” In 1704, Cannen says they were “from 9 to 10 feet in height;” and Byron represents them, in 1764, as being—7 feet the biggest, 6 feet 6 inches the smallest. In 1766, Duclos Guyot paints them as 5 feet 7 inches (French measure) the smallest. Bougainville, in 1767, says of them:—“They are from 5 feet 8 inches to 6 feet 4 inches (French measurement). In this last mentioned year Wallis represents them as 6 feet 7 inches (English measurement) the tallest, and 5 feet 10 inches those of ordinary size. King, in 1826, tells us that he found them only 5 feet 10 inches, except the few tallest, who reached to 6 feet.

Amongst the travellers who, from times far remote, criticised the exaggerated descriptions, and brought the height of Patagonians to reasonable dimensions, we can cite Drake, who, in 1758, speaking of the men seen by Magellan, observes:—“There are many English taller than the highest of them.”* And in 1760, Narborough, who was a judicious observer, writes of them as “having *only* an ordinary stature.” We ourselves have been deceived (we will not conceal it) many times by the appearance of the Patagonians. The breadth between their shoulders, the bare head, the manner in which they cover themselves from neck to feet, with skins of wild animals stitched up, together have created such a delusion, that, in our first glance, we should have regarded them as men of extraordinary stature, whereas, on a closer inspection, by measurement, we found them not above the common order. We may therefore ask, Have not other voyagers allowed themselves to be influenced by appearances, without searching for the truth, as we have done, by means of precise data?

To sum up. After having lived eight months in the middle of the Tehuelches, after having had them under our eyes, and measured a great number, who came either from Port Saint Julien or from the shores of Magellan Straits, we have not found a single one that exceeded 5 feet 11 inches in height—the medium being 5 feet 4 inches. This is doubtless a respectable size, but it is very far from being gigantic, † if we may be

* *Histoire des Navigations aux Terres Australes*, t. 1er, p. 186.

† The Caribs, described by M. de Humboldt, *Voyage*, t. ix, p. 11, are quite as tall as these Patagonians.

allowed to use the word. The women are in proportion as large and as strong as the men, their shortest stature being about 5 feet 8 inches.

The Tehuelches are remarkable from the breadth between their shoulders, and the prominence of their chests. Their bodies are well formed, their limbs well shaped and gracefully rounded, their articulation thick, and their flesh firm. We do not find amongst these Indians the same effeminate constitutions that are to be met with in parts of the torrid zone. They are, on the contrary, of massive build, and without deformity. Nearly all have the hand and foot small in comparison to the rest of the body, and on this account are little deserving of the nickname of Patagon. The custom of squatting on the ground turns in their feet, and makes the walk ungainly. The women have the same appearance as the men, but being so tall, they seem more slender than are American women generally. They are unfeminine in figure, but are not badly made.

The head of the Patagonian is large, the face wide, full, square, and flat; the cheek-bones are not very prominent, unless in old age; the eyes are small, black, lively, horizontal; the nose short and flat, with the nostrils gaping; the mouth big, protruding; the lips thick, and when open, letting us see magnificent teeth, which last to a green old age; the forehead round and prominent; the chin rather short, but a little projecting, and the neck thick. But they have a peculiarity remarkable amongst the Americans, in the fact, that the profile of forehead, lips, and chin, stands out so much that, in drawing a perpendicular line from the forehead to the lips, the nose scarcely ever touches such a line, and never passes it.* Altogether the features are often ugly, and their *tout ensemble* stupid, but at the same time, rather mild than disagreeable, so much so, that one feels disposed to make friends with them; whilst, on the other hand, there are less ugly people from whose ferocious air one recoils insensibly.

The young of both sexes have a facial expression of vivacity and wit, sometimes even a tolerably pretty countenance for a Patagonian. It is difficult to recognise the sexes until development shows the traits of the adult. Their black, thick, long, and smooth hair never falls off, and rarely becomes grey. Similar to all the southern nations, they have their beard, as well

* This description is erroneous regarding the Tehuelches whom I saw at Buenos Ayres, as well as those whose portraits go herewith; moreover, not one of these noses could be described as "short and flat," whilst the calibre of the lady's nasal apparatus has more of the Roman than the *retroussé* in it.—T. J. H.

as part of the eye brows plucked out as soon as the growth commences, so that these never appear very thick.

The Patagonian dialect differs entirely from that of the Puelches in its bases, but is somewhat similar in its forms. It is accentuated and guttural like the latter, but less monosyllabic, and less harsh. It contains few complicated sounds of consonants, the only ones which are harsh being *jr*, as well as the Spanish *j*, in all its guttural sound. For the rest there are few consonants which terminate words, or in fact only the following:—*em, ex, es, ar, el, et, in, ip, it, ec*. The nasal *u* is little used, the French *ch* sometimes, the *f* and *v* do not exist at all. There is no particular deviation from rules in the names given to different parts of the body, as we can see by the three following words:—*Capenca*, cheeks: *Guter*, eyes: *Téné*, ears. The employment of the letter *k* is general. The adjectives are declinable. The system of counting is decimal, and mounts up to 100,000, but, as in the Puelche idiom, the numbers 100 and 1000 are borrowed from the language of the Incas. The Patagonian dialect in its hardness seems to have relation with that of the Fuegians.

The moral character of the Patagonians is in most respects like that of other Southern nations, haughty, independent, faithful to their promises made between one another, and obliging to each other in their mutual relations. But towards Christians they are false, deceitful, rancorous, dishonorable, for they are educated to be thieves. These are very probably dispositions that have been generated as retaliations for the little good faith which the Spaniards have shewn towards the Indians. Incapable of deceit towards each other, they are discreet and courageous, whilst uniting to these virtues the cunning of civilised countries. Although good fathers and good husbands, they nevertheless leave all the daily work and labour to their wives, but they are never brutal or rough towards the partners of their joys and sorrows.

The arrival of Europeans in South America has very considerably modified the manner of living amongst the Patagonians. Before the conquest they always travelled on foot in small congregations, establishing themselves in any place where they found game. Then having exhausted the location, they removed elsewhere, and thus were always on the route. Their journey about much more in the present day, because joined to the interest and necessity of hunting, there is an equal incumbrance of getting pasture for their horses. Whilst the possession of these animals facilitates their power of crossing deserts, which before they could not approach.

As soon as a Patagonian family has consumed all the game

in the canton where they have established themselves, the women, who alone are charged with the work of the menage, at once set about rolling up the skins which, supported on posts, formed the tents (*toldas*), their humble retreats. They pack up all, whilst the men collect the horses: then placing the baggage on these last named, they mount atop with the young children. The men carry their bow and arrows, each of the latter armed with a piece of flint, like those of the Fuegians. They have also their sling as well as the *holas**—the most terrible of arms. They travel thus in short journeys to the next canton, whereat they are going to put up. On their arrival, the women reconstruct the tents, and light the fires, their husbands, as always, passing away in sleeping the whole time which is not given to the chase. Moreover the women, with extreme patience, skin the animals killed, prepare to preserve the hides, and make them supple, sew these together, when they are small, with thread made from the tendons, and make the large mantles ornamented with paintings, which serve as clothing for both sexes. In the same manner they prepare pieces of skin to girdle the waist. This includes all the industry of the Patagonians, for they never think of constructing for themselves a boat of any kind.

Essentially a landsman, the Patagonian would consider it a debasement to be obliged to eat shell fish, when circumstances compel him to direct his hunting adventures towards the seashore.

The men raise up their hair on the head and tie it with a little bit of ribbon or leather. They seldom leave their faces to the natural colour, for they paint them in red and black, putting the red on the cheeks, the black under the eyes, and sometimes white on the eye-brows. The women use the same colours with the exception of white. These latter divide the hair in two parts on the middle of the head, letting it thus float down over their shoulders, or allowing it to form two tails, ornamented with glass beads. They wear silver ear-rings of some inches in length, and adorn their feet with anklets of glass beads, which they procure for exchange of skins, with other tribes who obtain them in the cities.

There is no actual government amongst the Patagonians. The chiefs who lead in war are on an equality with the rest in time of peace. They never submitted themselves to the European (*i. e.*, the Spanish) yoke, as they always knew how

* For more details on this subject, see our *Voyage into Southern America*, historical part, l. ii, chapters xviii and xx, where we have described all that relates to this nation.

to defend with their arms the liberty of which they are still in enjoyment.

Their religion is with some modifications the same as that of the Puelches or the Aucas. They dread more than revere their *Achekenat Kanet*, which is by turns their spirit of good and of evil. If they are sick, this spirit is supposed to take possession of the body, and the Diviners who are also doctors, try to remove the illness by suction, by a thousand conjurations, and as many juggleries. In case they lose anything, it is still the spirit whom they accuse of the loss, and he gets no credit unless he does an amount of good more than equivalent to the evil of which he is the author.

Their Diviners disguised as women, when they are not of the feminine sex, exercise all the functions of interpreters of the evil genius—speak to him, and transmit his answers on the instant, whilst quite excited like the ancient Pythonesses of Greece, they are still inflated with the pretended Divine knowledge.

The Patagonians believe in a future state, where they expect to enjoy perfect happiness. Thence comes with them the custom of interring with the dead their arms and jewellery, as well as killing on the grave all the animals which belonged to him, in order that he may have them again in the world of happiness to which he has gone.

This last custom presents an insurmountable barrier to all civilisation, for never preserving anything of what they collect, they must remain always poor, and therefore cannot increase the flocks that serve for their nourishment. This fact prevents their fixing in any certain location. The most superstitious of savages, they make festival on the occasion of a first menstruation.

In conclusion, if the Patagonians ought to form a separate species from the other Americans, it cannot be solely on account of their stature, as I have proved. They appear to belong to a branch of humanity distinguished by massive form, a handsome figure, and the absence of all effeminate traits that are peculiar to the plains of the East of South America, and who through the Puelches, pass to the Charucas, as to the Mcobis or Tobas of the Grand Chaco. Their manners, customs and religion are those of the Puelches and of the Aucas. Under different points of view all the Southern nations have the closest analogy. By their language the Patagonians bear no affinity with the Aucas, the idiom of these latter being very sweet and harmonious, whilst that of the Tehuelches is hard. They seem in this matter to be in no wise allied to the Puelches, whose idiom, still more guttural, presents

much of the same forms. We find also by contrast of the manner wherein the Mbcobes and Tobas pronounce, the hard sounds of the Patagonian language.* As comparative description will shew, the Patagonians are distinguished from the Aucas by their bearing, their figures, their physique—differences that we find everywhere in America, between the inhabitants of the mountains and those of the plains.

That D'Orbigny belonged to the monogenists is evident, from the following confession made in the first volume of the work before us. "Nous commencerons par déclarer que notre conviction intime est que, parmi les hommes, il n'y a qu'un seul et même espèce". Even allowing the correctness of his deductions, it seems rather difficult to reconcile much relation between the Mbcobis (Macobies) of whom here is a photographic sketch; and the Tehuelches accompanying this. More particularly when the physical analogy is inferred from supposed similarity of softness in their respective dialects.

The hair, which goes herewith is from the head of the cacique Francisco, and was obtained for me by Mr. Jones. I could not find out the cacique's native name, for Mr. Jones tells me it was not to be ascertained. Francisco is the only one of the lot who understands the Spanish language, and with his knowledge of this tongue most probably came his Castilian appellative.

In the parliamentary paper published last year of correspondence about the Welsh colony in Chupat, is a letter from the Pampa cacique Antonio, to Mr. Jones, in which appears the following statement:—

"To the north of the Rio Negro (Patagones) and on the borders of the high mountains, which the Christians call the Cordillera, live a nation of Indians denominated 'Chilenos.' These Indians are of small stature, and they speak the language called Chilona.

"Between the Rio Negro and the Rio Chupat lives another nation, who are of taller stature than the Chilenos, and who dress themselves in Guanaco mantles, and who speak a different language. This is the nation called 'Pampa' and speaking Pampa, I and my people belong to it.

"To the south of the Chupat lives another nation called 'Tehuelche,' a people still taller than we are, and who speak a distinct language.

* It may be needless to repeat, that the language spoken by the group of Tehuelches, whom I met at Buenos Ayres, seemed to be rather mellifluous than harsh or rude.

• “Now I say that the plains between the Chupat and the Rio Negro are ours, and that we never sold them; our fathers sold the plains of Bahia Blanca and Patagones, but nothing more.”

From which we may infer that the question of disputed boundaries has not been created by the present war in Paraguay, but seems an idea characteristic of all the South American races.

XXX.—*Past and Present Inhabitants of the Cyrenaïca.* By
Captain LINDESAY BRINE, R.N.

[*Read November 24th, 1868.*]

IN the autumn of 1867, and during the spring of the present year, it became my duty to visit certain portions of north maritime Africa. At first, my instructions were restricted to the neighbourhood of the ruined cities of Apollonia and Cyrene, for the purpose of enabling Mr. Dennis (one of Her Majesty's Consuls in Barbary, now engaged in Asia Minor, under the auspices of the British Museum, in pursuing researches among the tombs of the kings of Sardis), to examine some columns of Cipolin marble which lie prostrate near the sea; but in the following spring, the nature of the service upon which I was ordered made it necessary for me to observe the whole extent of the African coast situated between Berenice, or Bengazi, (the fabled gardens of the Hesperides) on the west, and the boundary of Egypt towards the east. This region embraces Libya, and that fertile strip of Africa called the Cyrenaïca. It is proposed in this paper to give a brief outline of the condition and nature of the present inhabitants, or nomadic tribes, now settled among the plateaux and ruined cities of the Cyrenaïca, and to draw attention to the traces that remain of earlier civilisations.

There are no records, historical or architectural, relating to the aborigines of this part of Africa, but it is evident that they were scanty and unwarlike. The handful of Greek colonists who settled there B.C. 600, were able, in a remarkably short time, to expel the natives, and to maintain their conquest against the whole power of the Libyans. These Ægean Greeks have left grand proofs of their energy and ability; and although their capital, Cyrene, has been destroyed, and almost buried, it yet contains, on the sides of its ancient roads and on the faces of the valleys, the most artistic and extensive rock-cut tombs in the world. We also know, from the results of the excavations conducted by Captain Porcher, R.N., and Major Smith, R.E., that these colonists possessed sculptures not inferior to those of the best continental Greek period. In common with many other Greek colonies, Cyrene produced several eminent mathematicians and philosophers, whose names have become historical; but we find very little information regarding her population or influence,—a fact

quite intelligible when we consider the isolation of her position; for then, as now, the Cyrenaïca must have been dangerous to approach by sea, and difficult and tedious to approach by land.

The Romans, who succeeded the Greeks, developed their own especial genius by constructing harbours and seaports; and it is a notable proof of the greatness of that race that they attempted to form harbours of refuge upon a coast most unusually difficult and exposed,—indeed, the most dangerous that it has ever been my fortune to have been employed upon, where nature has not provided a single place of shelter, and which is open, during the prevalent north-western gales, to the unbroken strength of the sea. It was probably during the early centuries of the Roman rule that the Cyrenaïca reached its highest prosperity. Then flourished the maritime cities, Apollonia, Ptolemais, and Berenice. A considerable naval station was organised; and the commerce with the Levant was conducted at the open harbour of Dernah, on the eastern frontier.

Cyrene, situated on the summit of hills overlooking the sea, and commanding its tributary cities on the coast from a height of two thousand feet, still retained its rank of capital, and, by the produce of silphium, attracted the wealth and commerce of the opposite shores of the Mediterranean. Sixteen hundred years have elapsed since that time. The Romans, by their alliance with the east, became degraded, and the Cyrenaïca was in succession invaded and conquered by the Persians, the Africans, the Goths, and the Arabs. The temples and the basilicas were destroyed, and the cities became heaps of ruin. Tribes of Bedouins now draw their water from the reservoirs of the Romans, house their cattle in the tombs of the Greeks, and pitch their tents under the shadows of amphitheatres and Christian churches. The changes that have happened are not less extraordinary than numerous. During the reign of the emperor Trajan, it was computed that several hundred thousand Jews were settled around Cyrene. Now, not a vestige of that race remains. A little later, we find Christianity flourishing in a marked degree,—in fact, it seems that it possessed extraordinary strength and influence. The five cities had their bishops and a numerous clergy; and the caves in the adjacent limestone hills afforded a retreat for the monastic orders. At the present day, the most frequent ruins are those of Christian churches; and at Apollonia, the shore is strewn with granite columns, each bearing in relief a Christian cross. Yet, with all these evidences of Christian prominence, not even the memory of our faith remains; and thus the Cyrenaïca and the maritime regions of North Africa afford us a remarkable

instance of a very rare event,—the existence of a country in which Christianity, after having once flourished, has been utterly swept away and forgotten. When the Arabian caliphs conquered the country, Mahomedanism became the religion of the state, and the Christians, under severe pressure, were gradually converted to the new faith. In those days there was much fanaticism; but now it is remarkable that, while the inhabitants of Morocco, Fez, and Tunis, still retain much of the old Moslem feeling, the inhabitants of the Cyrenaica practically live in complete indifference to religion, and only coldly comply with a few of the external forms enjoined by the Koran. The Saracens governed the country until the Turkish power began to spread; and finally, in 1533, the expedition of the Turkish naval pasha Barbarossa,* put an end to the Arab rule in North Africa, and the Cyrenaica fell under the control of officers appointed from Constantinople. Since that time, the Cyrenaica has passed out of the notice of history, and has become isolated and forgotten; and that most beautiful and fertile country has become the home of a race of men physically gifted, but whose brains are lying fallow,—who are incapable of comprehending the significance or grandeur of the ruined cities they occupy,—who, ignorant of the past and indifferent to the present, have no other interest beyond that of gratifying their animal wants. Yet a section of this race in earlier days were unrivalled as poets and architects, and left the influence of their genius over modern Europe; they partly instance the probable truth that mental degradation is proportional in strength to previous civilisation, and that nature has some law which, at certain periods, enforces *rest* upon the brains of her favourite races.

In the Cyrenaica each race has left its distinctive mark. The artistic Greeks are known by their temple-tombs, their statues, and their exquisitely shaped terra-cotta vases; the Romans have left city-walls, wharves, aqueducts, and reservoirs; the Saracens are represented by some Saracenic architecture near the Libyan frontier; the modern races of Arabs and Negroes neither build nor destroy, and, devoid of all ambition and genius, are content among their tents and cattle. The present population of the Cyrenaica consists of the three socially distinct classes of Arabs,—the stationary or city Arabs, the armed nomads, and the Bedouins; on the eastern frontier, there is a mixture, caused by the importation of Nubian or African slaves. But it is at Bengazi, at the west extremity, that an ethnologist

* Barbarossa was the first naval commander historically known to have executed the evolution of breaking through an enemy's line. Nelson employed similar tactics in the battles of the Nile and Trafalgar.

can witness the most remarkable instances of the effects of cross-breeding. Bengazi, the ancient Berenice and Hesperides, is a port of communication with Barbary and central Africa; and in the market-place may be seen, crouched in groups, every possible shade of type. The chief elements are the fair and high-bred Arab; the tall, well-shaped black Nubian; and the woolly-haired Negro. These elements are so mixed, that it is impossible to detect the gradations between the types. One race insensibly merges into another; the Arab becomes gradually black, and his hair, losing its long and straight nature, becomes coarse and curly, and the Nubian becomes sickly and dwarfed. There is also a resident Turkish garrison, which takes its part in the general mixture. The result is a mass of human hybrids, which present, what such mixture always does present, disease and degradation. Each race loses its own special beauty; and the cross-breeding produces a set of beings which, mentally and physically, appear to lose all the virtues, but combine all the vices of the respective parents. Fortunately such degradation does not descend, as these mongrels either in time die out, or the type is thrown back by nature to one of the original stocks. These degradations are, however, only to be met with at the port of Bengazi, and the majority of the inhabitants present, in the most marked manner, the worthier forms of the Arab type.

The Cyrenaica consists of a long strip of table-land, bounded on three sides by the Desert, and on the fourth by the Mediterranean sea. The formation is limestone, and is much hollowed by caves. The country is remarkably fertile, and nothing can exceed the beauty of the scenery on the heights and among the ravines. From the upper plateau, upon which Cyrene is built, the land descends in terraces to the coast; and it is on the slopes of these terraces near the sea, and in the neighbourhood of the ruined cities, that the Bedouins fix their tents, wandering from place to place, and planting their corn according to the season and the supply of water. These Cyrenaican Bedouins possess the thievish and treacherous propensities of their brethren in Syria; but they are more warlike and aggressive, and are far finer in build. As a rule, the men are tall, gaunt, and muscular; their hair is straight and dark; eyes brown, and deeply set; their skin is coarse and much tanned; and the voice is loud and remarkably harsh. The women are invariably much darker, and, in fact, are usually quite black,—and this is the more extraordinary, because the men are constantly exposed to the sun, whereas the women pass most of their time in the tents or in the shade of the shrubs or ruins, amongst which the tents are usually concealed.

With the Arabs of the higher class, the women are fair, gentle, and intelligent; but I have not met with an exception to the fact of the Bedouin women, when grown up, being coarse, and almost repulsive in their ugliness. When children, their skin is bronzed, but very soft; they are timid and gentle, and in many instances attractive, but as they grow older they grow blacker, and their voice becomes rough and harsh. It is not readily explicable why there should be such a marked difference between the sexes,—why the boys should develop into exceptionally fine men, and the girls into exceptionally inferior women. The facts exist, and similar facts seem to be found wherever civilisation is at a low mark; *i. e.*, it appears that with all barbarous races, or those but slightly civilised, the women are proportionally inferior to the men (although always retaining considerable influence). The North American tribes, the Esquimaux, Malays, and Hottentots, are instances of this; and the converse is true, that it is precisely as we advance in what is termed civilisation, that woman advances to occupy her proper position; indeed, the height of civilisation may almost be known by the comparative physical and intellectual equality of the sexes. The Bedouin women, however, do much to destroy whatever charm nature may have given them by the habit of tattooing, and, in some tribes, of slitting the right nostril. It is also common for mothers to lengthen the lower lips of their female children, and tattoo the inside, and carry over the lines of tattooing down to the chin. Boys are very rarely tattooed, although occasionally mothers cannot be prevented from tattooing a boy's chin, as a charm against the Evil Eye, so universally believed in the east. The Bedouins have kept their type and customs distinct, and nowhere can there be detected in their tribes any mixture of race. Negroes are sometimes employed as labourers and are treated kindly, and admitted to social familiarity; but I doubt if they are allowed to take a wife out of the tribe. With the Arab sheikhs and their families it is well understood, that no *mésalliance* whatever is permitted, for there is nothing to which the ruling Arabs so cling as purity of blood.

The Bedouins, with their cattle, settle on the maritime plain in the spring and autumn. Their tents are usually pitched near some ancient ruins, so as to obtain a supply of water, after the rains, from the Roman reservoirs or wells; and sometimes the encampment is concealed among the juniper, arbutus, and laurestinus shrubs, with which the slopes are covered. They have but few camels, as these are only used for carrying the produce. Oxen are employed for the plough. Goats are very numerous, and supply the principal necessities of exist-

ence. During the day, the men are engaged away from the tents, and the women remain to grind corn, make butter, and weave tent-cloth. The tents are black, and made of goats' hair; in shape they are oblong, and similar to those used by the Kurds in Asia Minor, and recall the outlines of Chinese temples and houses. Inside the tent live the Bedouin, his wife, children, grandchildren, and near relatives. Their life is simple, and rather silent and morose, for the Bedouins are not given to singing or feasting, or any social pleasures. After sunset, the tents are dark and silent, and, but for the dogs, a whole encampment may be stumbled upon without the slightest warning. The men and women are singularly abstemious; and I have known Arabs, when travelling, content themselves, for their day's provisions, with water and a few handfuls of grain. The country being of limestone formation, is full of caves and recesses. Many families find excellent shelter in them, and others are made useful for herding the goats. On the plain there are numerous surface-hollows with small openings, which are used as caches, for the purpose of storing the fodder when the Bedouins retire to the upper grounds.

The rock-cut tombs at Cyrene are inhabited by the sheikhs, and other chief Arabs. A large entrance, raised slightly above the road, opens into a chamber of considerable height and size, and this usually communicates with smaller chambers, formerly used for sarcophagi. It was in one of these tombs that I was received by the governor and his staff, on the occasion of my official visit. At Apollonia and Ptolemais the tombs are used for herding cattle.

All the Cyrenaican nomadic tribes are notorious for their treacherous and aggressive habits. The men are never without their guns; and, if superior in numbers, are menacing and unsafe to strangers. They possess an extraordinary power of rapidly converging, upon any given point, in considerable numbers; and although many parts of the coast appear uninhabited, there is no part where, in a few hours, some hundreds of armed Bedouins would not meet. In this respect they resemble the Tyrolese, but they are far more rapid. I saw an instance of this on an occasion when I landed upon an apparently uninhabited plain to examine some ruins. I was accompanied by about twenty officers and men. In half an hour, after wading knee deep through a profusion of wild roses, camomiles, and oleander, we reached an open Roman platform, supporting the columns we wished to examine. On looking round, we saw Bedouins running down the ravines, from all directions, to meet us. We stopped to talk, and obtain some information from the first troop that joined us, and then retraced our steps to the beach.

On our arrival there, we found at least fifty of these lithe and active Arabs already assembled at our landing-place, all armed, and inclined to be troublesome; however, we embarked without difficulty. As a general rule, all these Bedouins look upon strangers as enemies, or, at all events, as persons to be robbed, and although manly and independent, they do not possess the other Arab virtue of hospitality.

With all Arabs, there is a great distinction between the families and relations of the sheikhs, and the families of the others. The intercourse is on a footing of equality and independence; but no intermarriage is permitted. In the Cyrenaica, all the leading class are remarkably intelligent in appearance and courteous in manner. The men are excellent riders, and active also as runners. They are usually fair, well made, and above the middle height; the women are graceful and attractive. With the Arabs, as with that high class of Turk, now unfortunately becoming extinct, there are the unmistakable evidences of a pure race and of natural breeding. Their voice is soft; whereas with the nomads, the voice is strangely harsh and discordant. They are usually well dressed and well mounted; and their guns, made at Marseilles and ornamented in Morocco, almost compensate, in appearance, for their inefficiency in action.

It is a most striking peculiarity of the Arabs of the Cyrenaica that they have kept their type so pure, although surrounded by nations of distinct and different race, and in no respect have they borrowed or adopted any of the customs or ceremonies of their neighbours; but the fact is, that the races are radically different. Negroes are gregarious and fond of amusement, and delight in dancing and in the sounds of the fife and tom-tom. The Arab nomads, on the contrary, are not a joyous race; they have no amusements and no games. By disposition, they are rather sullen and solitary; they are abstemious and silent, preferring gesture to speech. A Bedouin is proud, independent, and reserved; whereas a Nubian, or Central African, is noisy, easily led, and submissive. The African is superstitious, and swayed by religious fears; whereas the Bedouins are remarkable for their total indifference to religion, worship, or to anything relating to superior Powers.

Finally, the conclusion which an attentive consideration of the inhabitants of North Maritime Africa leads to is this,—that (without presuming to fix any laws of absolute relative superiority or inferiority of race) there are reasonable grounds for admitting that certain races invariably maintain their distinct individualities. In the case of the Arabs, it is evident that they have remained unchanged in type and in instincts through-

out historic ages ; and it is also evident that their case can with equal truth be applied in Africa to the Negro, and to the Egyptian Copt. And a consideration of the other leading races in the world, in China, Europe, and America, leads to a similar conclusion ; viz., that races may become extinct or be suppressed, as in the cases of the American Indians and the aborigines in the Anglo-Saxon colonies ; but that no lasting amalgamation is possible, and that certain races are like parallel right lines, which may approximate, but can never unite. .

NOTE.

At page 147, of Dr. Campbell's paper "On the Tribes around Darjeeling," under the head "Classification of Tribes," and the paragraph beginning "Khus, Mágárs, Goorongs," after "Sanscrit" should be added, "but the two latter have separate dialects of their own not allied to Sanskrit.

